



Medicolegal Investigative Approach to Drug Toxicity-Related Deaths

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Dr. Barry Logan, Dotti Owens, Dr. Michelle Rippy, Erin Worrell



Medicolegal Investigation: State Unintentional Drug Overdose Reporting System (SUDORS)

Brian Ehret, F-ABMDI



Industry Disclosure

The material and opinions presented do not represent the American Board of Medicolegal Death Investigators (ABMDI)





Medicolegal Death Investigation

The Beginning (A-Z)



Screening Notification of Death – Ideal State

- Coroner/Medical Examiner Offices (C/ME) should have a uniformed system in place using a comprehensive approach to questioning
- An appropriate and thorough screening tool is the benchmark for a quality, high-functioning medicolegal system



Screening Notification of Death – Ideal State

- Review of prescription drug monitoring program (PDMP)
- Electronic database that tracks controlled substances in real-time
- Helps to gain accurate and timely information about prescribing and patient behavior
- Important to utilize this tool before determining jurisdiction of case



Screening Notification of Death – Ideal State

- Review of a Health Information Exchange (HEI) – such as a Regional Health Information Organization (RHIO)
- RHIO provides real-time access to medical records in specific regions
- Review recent hospitalizations, emergency department visits, remote hospitalizations, primary care/medication records, urgent care records

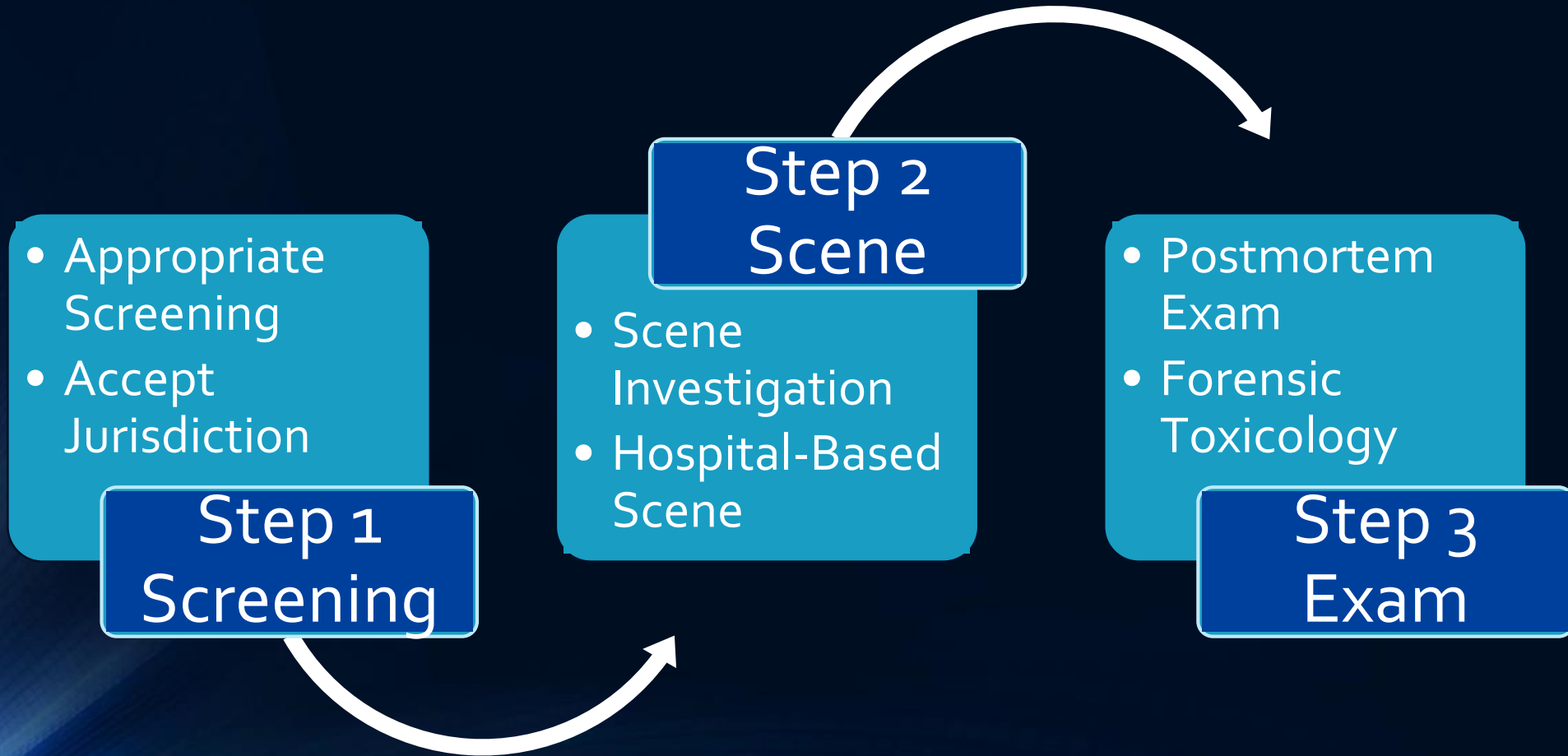


Screening Notification of Death – Ideal State

- Use of RHIO can assist in making accurate jurisdictional decisions
- RHIO used in conjunction with PDMP – and information provided by the reporter of death
 - Law Enforcement
 - Medical providers (ED, inpatient)
- Important to utilize this tool before determining jurisdiction of case

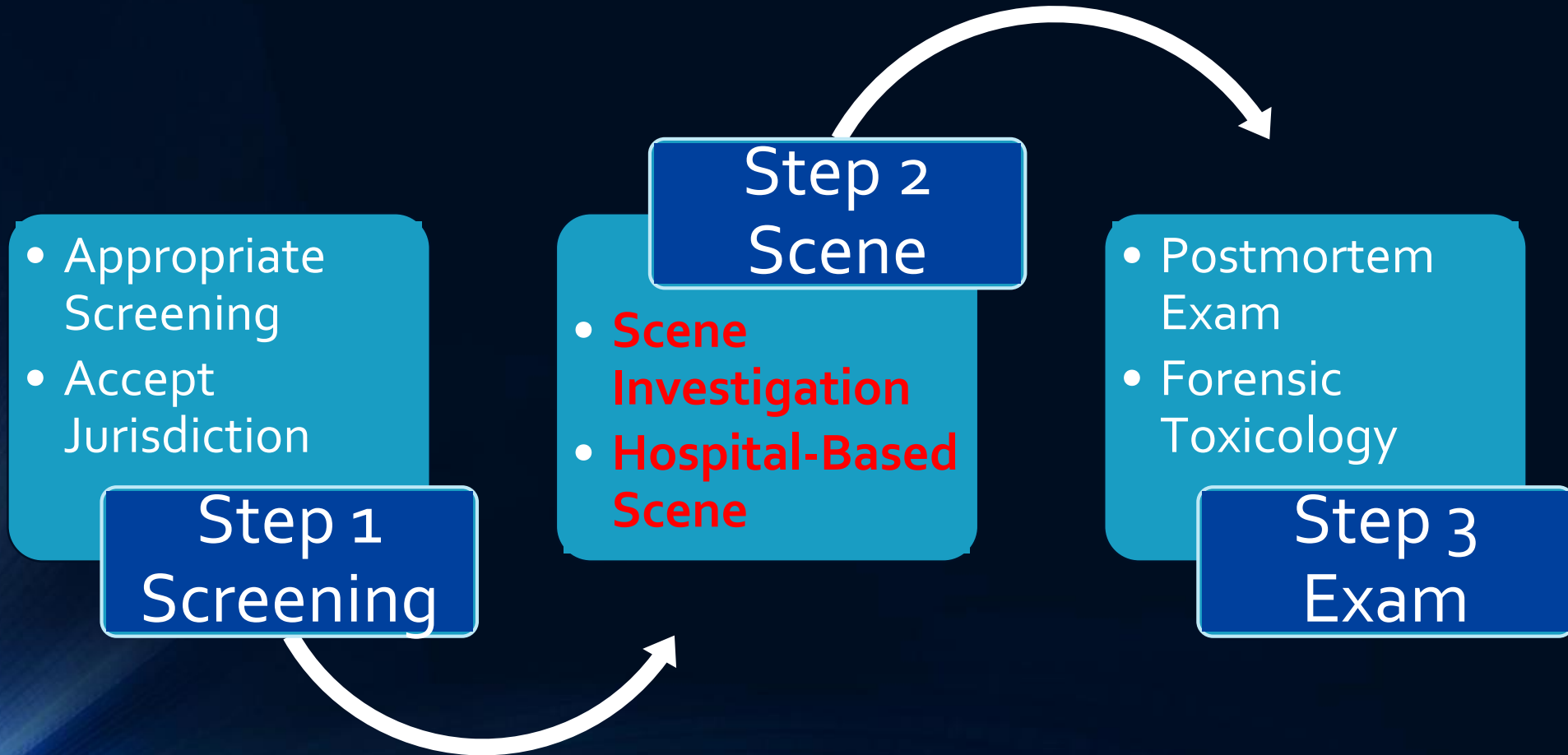


Drug Toxicity-Related Death Investigation



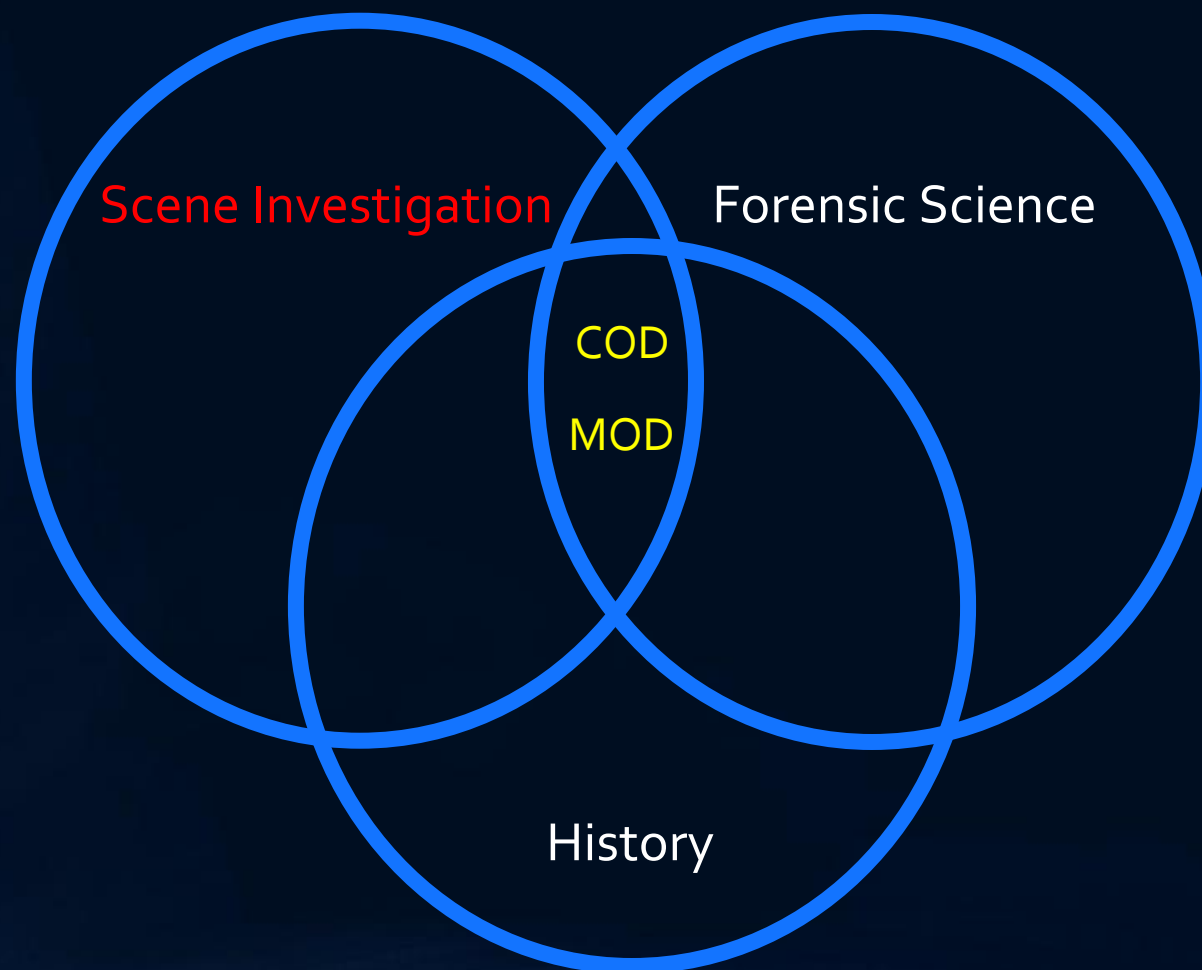


Drug Toxicity-Related Death Investigation





Medicolegal Death Investigation





Allied Training

- Outreach and multijurisdictional training is crucial to bring a diverse group of stakeholders together
- Collaborate and address issues vital to a death investigation
- **Communication – Cooperation – Coordination** are essential components to the quadrangle of medicolegal investigations

Criminal Justice – Public Safety – Medicine – Public Health



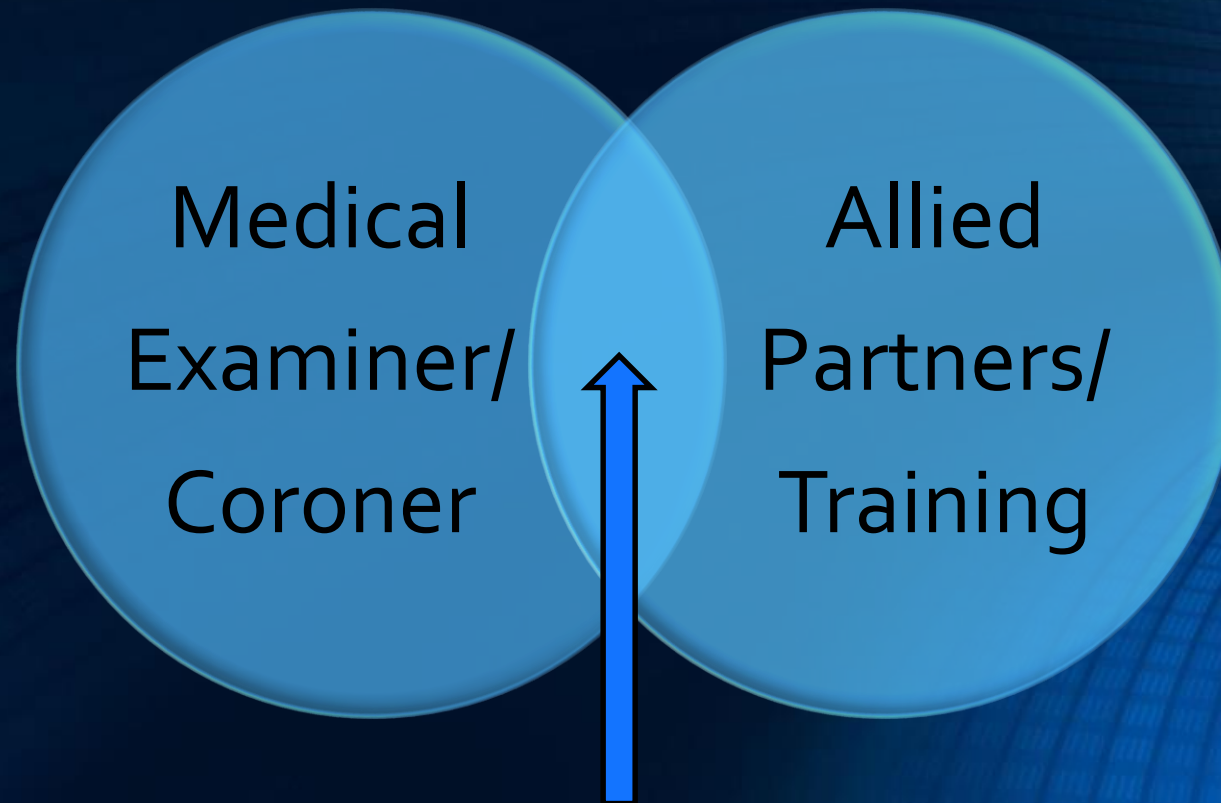
Allied Training

- Police Academies
- Law Enforcement Patrol Divisions
- Criminal Investigation Divisions
- Evidence Technicians
- Drug Task Force
- Fire Personnel / Academy
- Paramedics, EMS
- Emergency Departments
- Inpatient Hospital Staff
- Nursing Homes
- Organ/Tissue Procurement Agencies



Medicolegal Death Investigation

Working Together



Ideal State

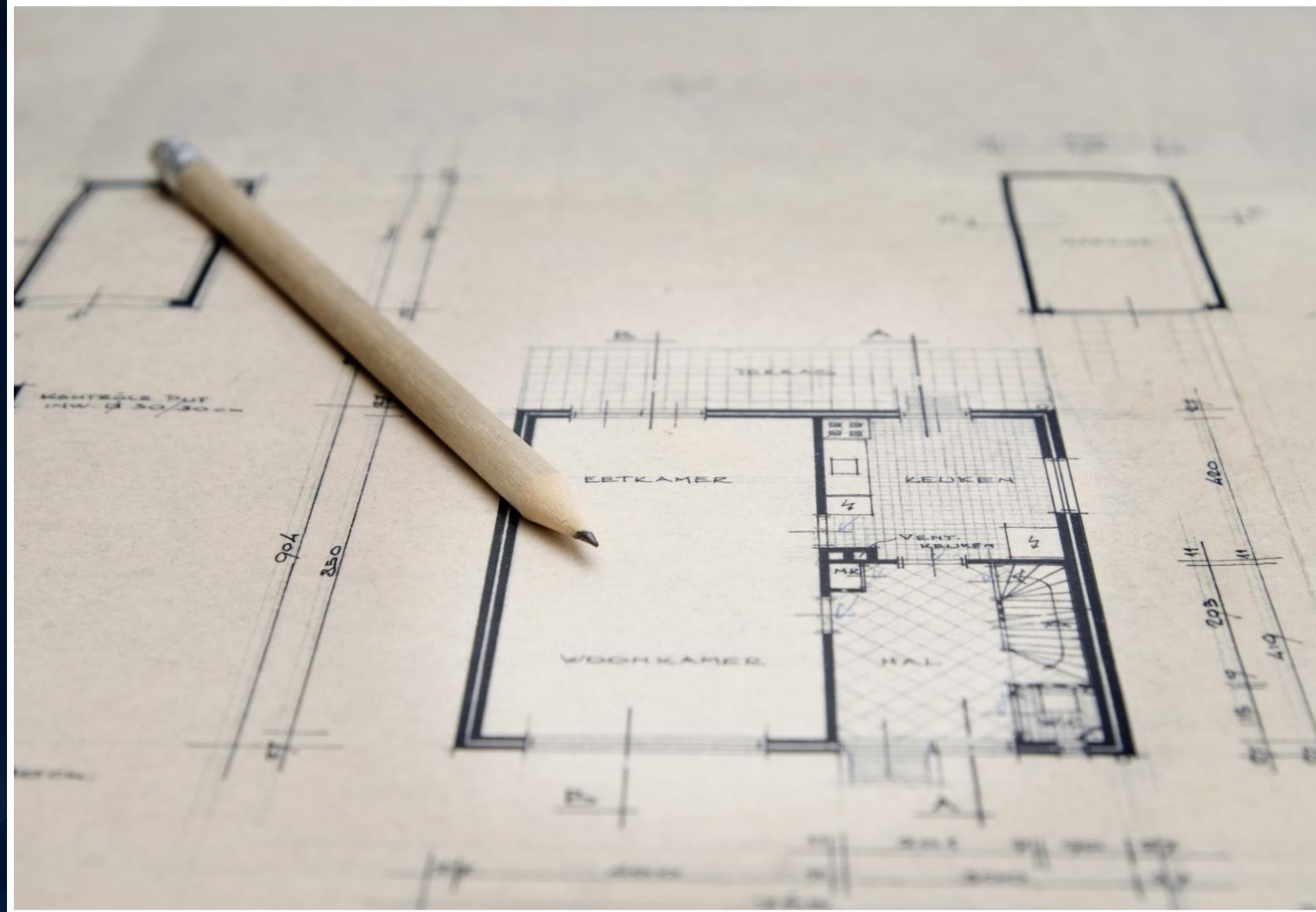


Medicolegal Death Investigation

What Can We Learn
from a
Scene Investigation?



Medicolegal Death Investigation





Medicolegal Death Investigation

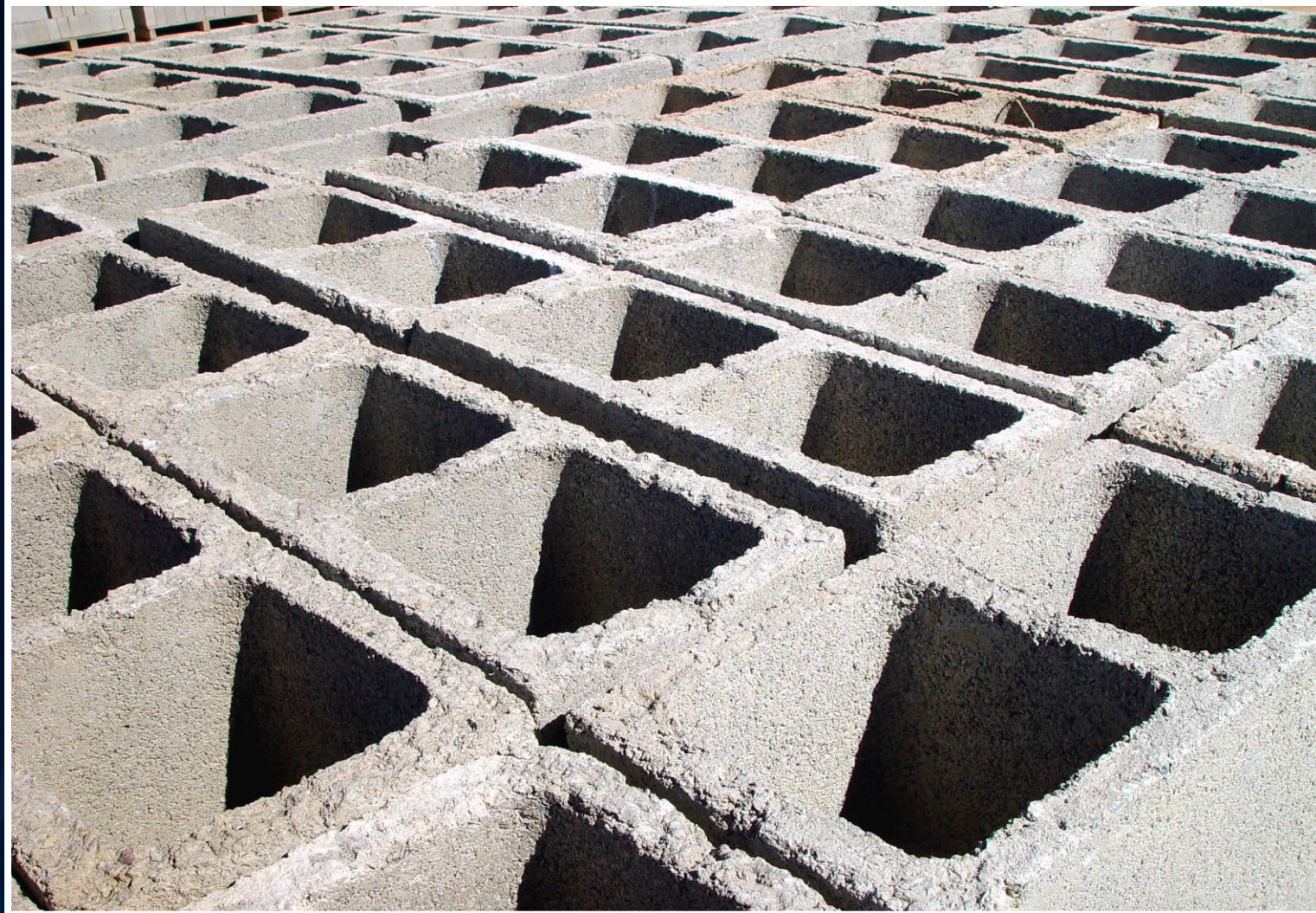


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Medicolegal Death Investigation

Scene Arrival

- Meet with law enforcement and exchange information
- Confirm information that was provided during the initial notification of death
- Obtain additional information that was learned since the death notification to the C/ME
 - Criminal history
 - Premise history



Evidence



Figure captured and adapted from: markus-spiske-k-o-lcw5J8o-unsplash.jpg



Evidence



Figure captured and adapted from: Hayward Police Department



Evidence



Figure captured and adapted from: Hayward Police Department



Medicolegal Death Investigation

Scene Photography

- Photographs should be taken before and after the body is moved
- Photo-document items as they are presented – as the position and location is essential to determine the possible chain of events leading up to the death
- Ask law enforcement if any items have been moved or collected prior to your arrival



Scene Photography



Figure captured and adapted from: Onondaga County Medical Examiner's Office – Center for Forensic Sciences, Syracuse, New York



Detailed Body Examination

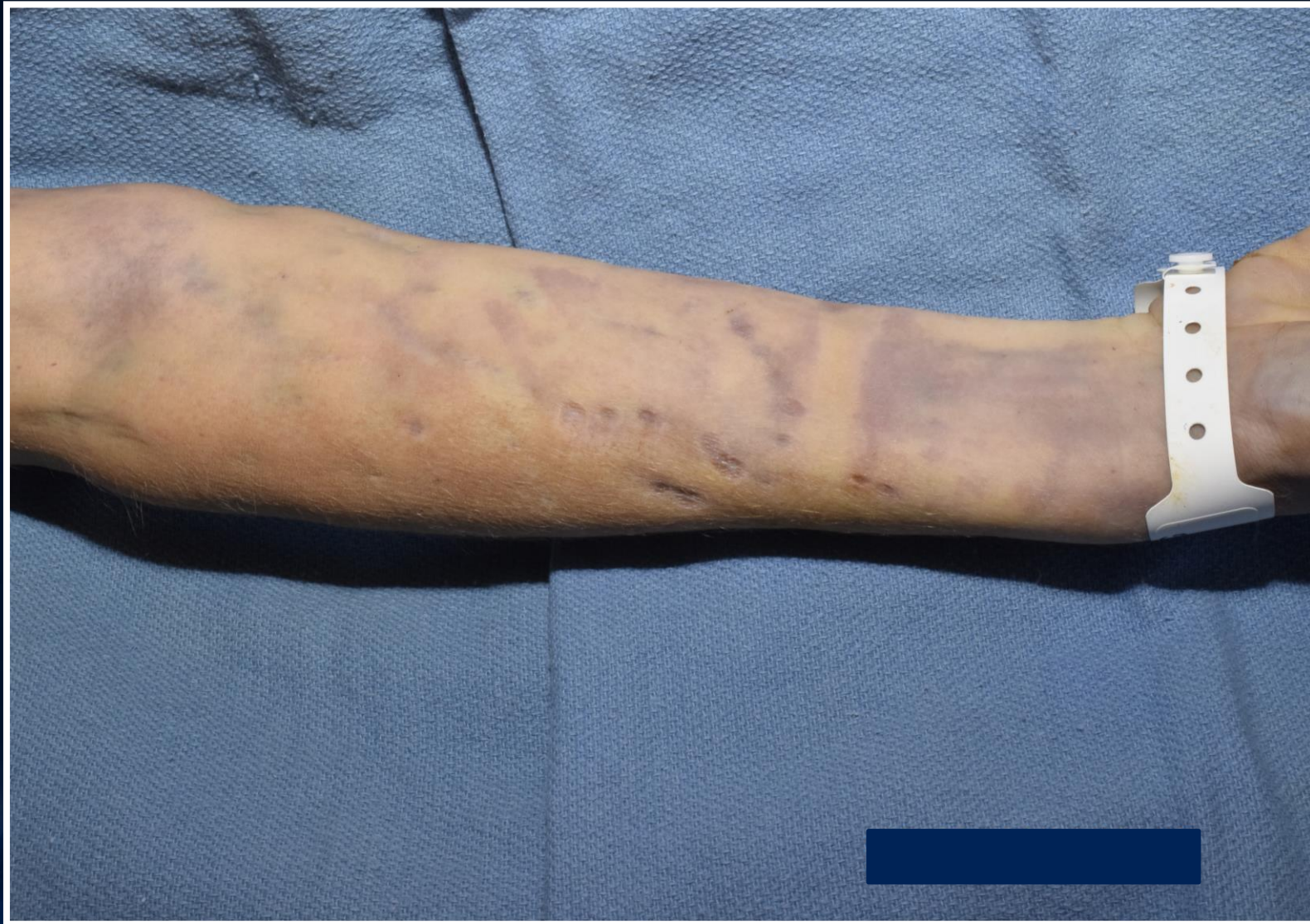


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Evidence

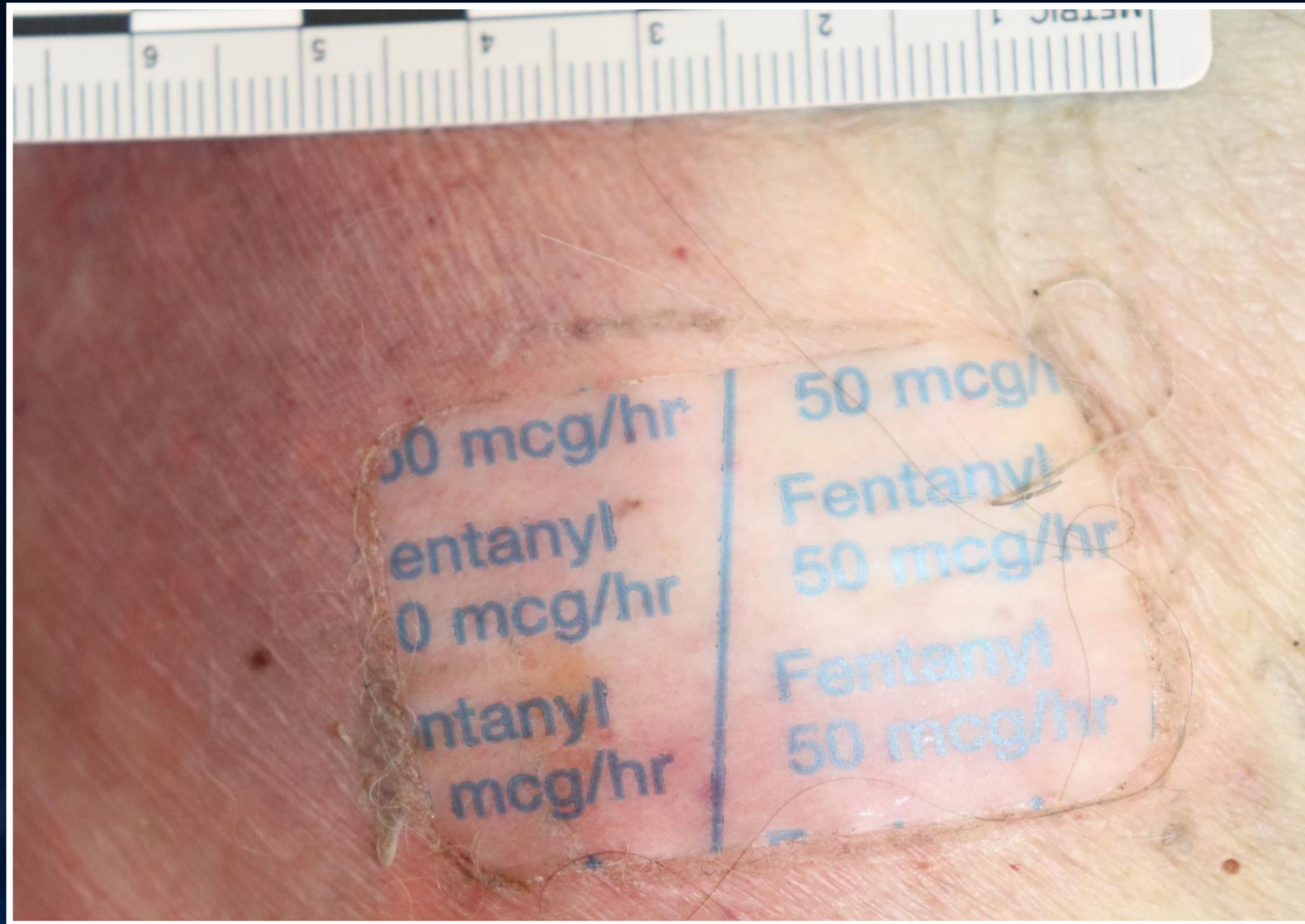


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Medicolegal Death Investigation

Recent
Release
from
Incarceration



Figure captured and adapted from: Onondaga County Medical Examiner's Office – Center for Forensic Sciences, Syracuse, New York



Figure captured and adapted from: Onondaga County Medical Examiner's Office – Center for Forensic Sciences, Syracuse, New York

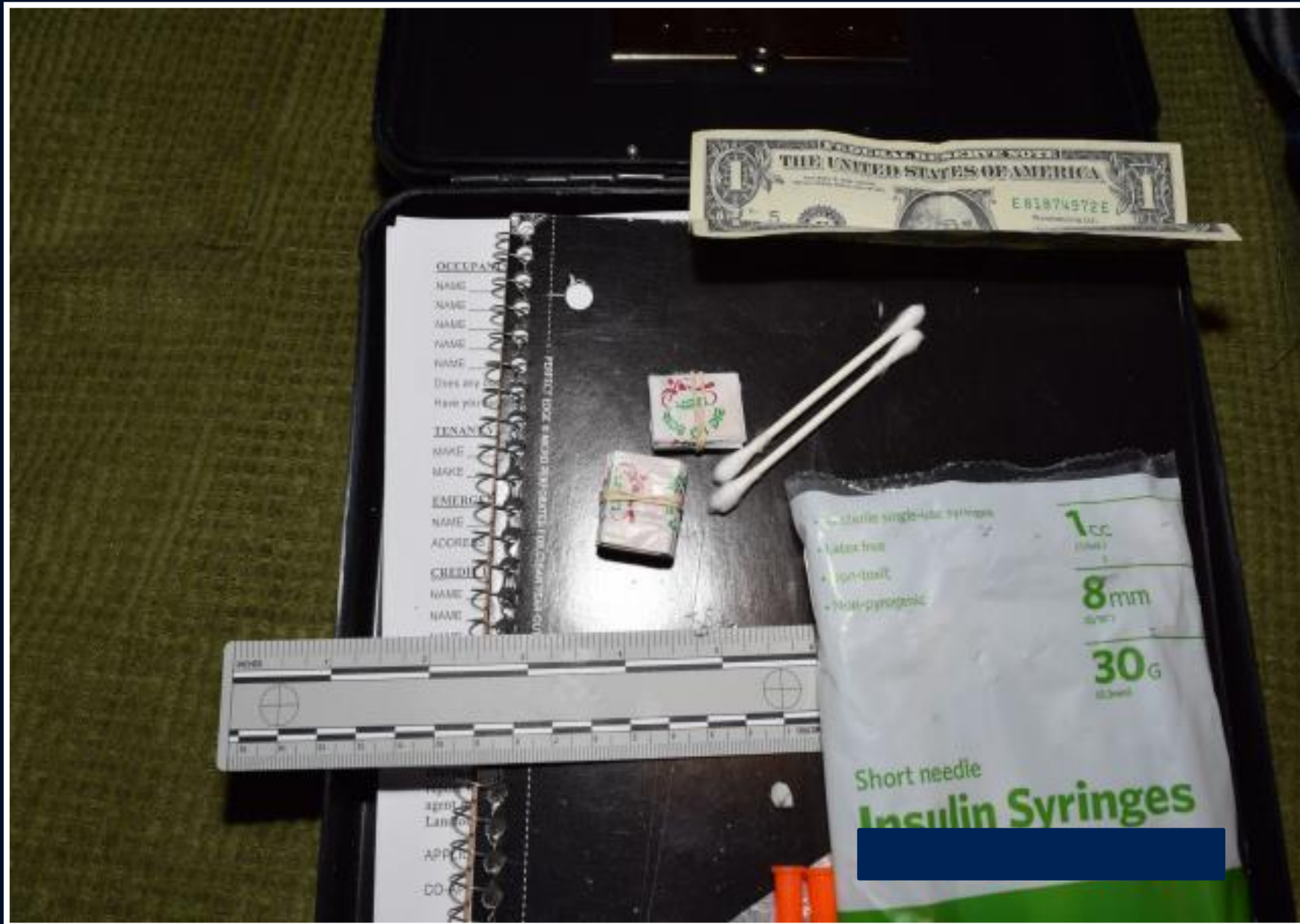


Figure captured and adapted from: Onondaga County Medical Examiner's Office – Center for Forensic Sciences, Syracuse, New York



Figure captured and adapted from: Onondaga County Medical Examiner's Office – Center for Forensic Sciences, Syracuse, New York



Medicolegal Death Investigation

Recent
Discharge
from
Rehabilitation



Figure captured and adapted from: Onondaga County Medical Examiner's Office – Center for Forensic Sciences, Syracuse, New York



Figure captured and adapted from: Onondaga County Medical Examiner's Office – Center for Forensic Sciences, Syracuse, New York



Medicolegal Death Investigation

Recent
Return Home
from
Military



Figure captured and adapted from: Onondaga County Medical Examiner's Office – Center for Forensic Sciences, Syracuse, New York

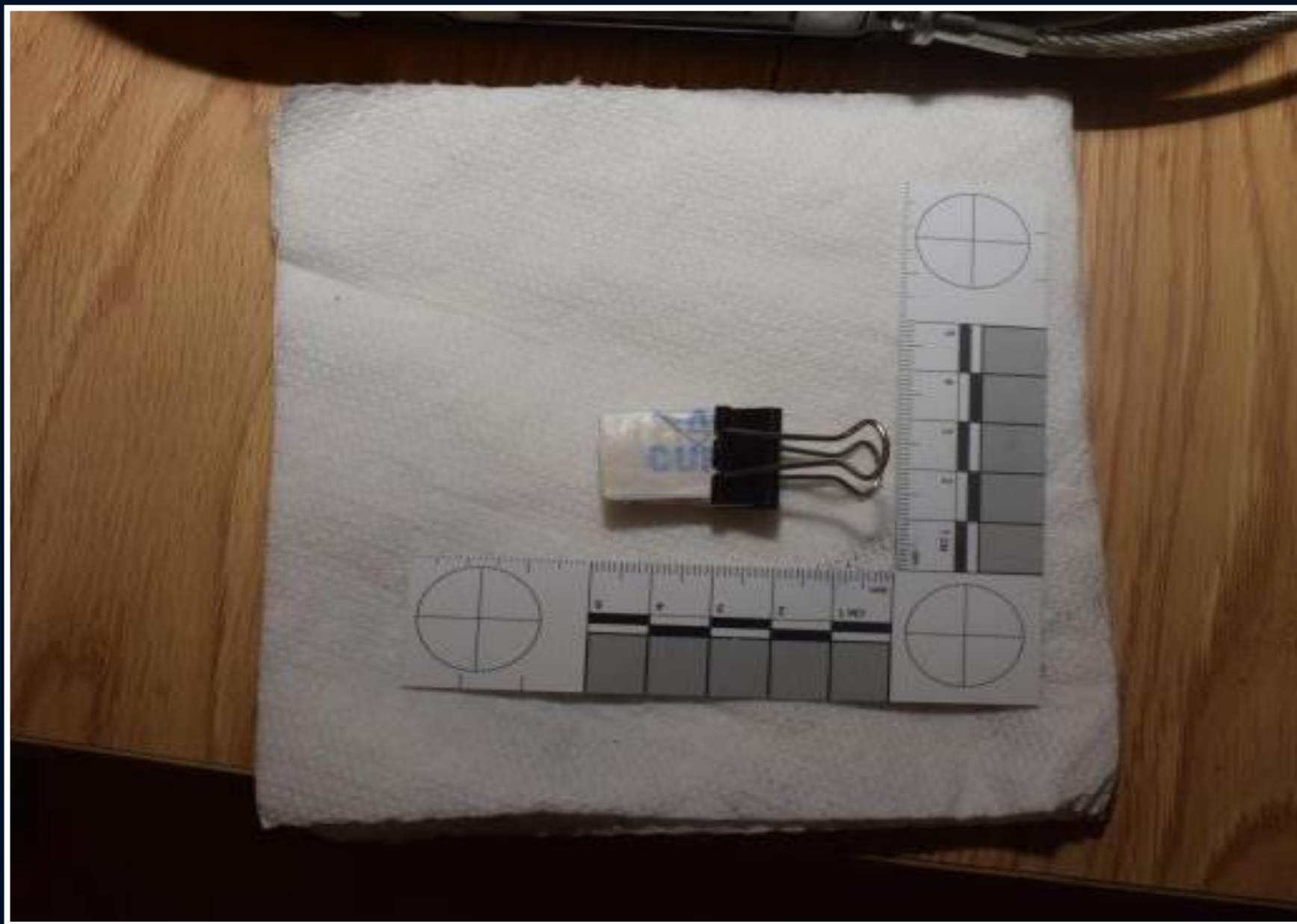


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Medicolegal Death Investigation

Investigative Documentation



Case-Type Specific Data – Ideal State

- Each specific case-type has a number of investigative points that should be documented during the scene and vary in number based on the specific type of death investigation
- Each case-type will also have a number of specific points based on the kin and witness interview(s)



Data Entry Screen

Report of Scene Investigation			
ME to Scene	JLISI	Joseph J. Lisi, F-ABMDI	
Arrival Date	01/01/2010	Arrival Time	14:35
Scene	Scene	Scene Category	Home Death
Officer At Scene			Inpatient Emergency Room Nursing Home Home Death NME to ME Resting to ME Other
Investigator	ABBOTT, STEVE		
Investigator Agency	NYSP-BAL	New York State Police - Baldwinsville	
Investigator Phone	(315)111-1111	Investigator Fax/Email	




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Data Entry Screen

<input checked="" type="checkbox"/> Photos Taken?	Type of Camera	Nikon D3000
Weather Conditions	Cloudy with heavy rain. 	
Outdoor Amb. Temp	68	Instrument Used
Indoor Ambient Temp	67-F	Digi-Sense infrared thermometer
Decedent Surf. Temp	71-F	Instrument Used
		Digi-Sense infrared thermometer




Investigative Report

FI Arrived on Scene: 08/09/12 23:33		ME to scene: N/A
MEO Photos: Yes	Type of camera: Nikon D3000	
Weather Conditions: Cloudy with heavy rain.		
Outdoor temp: 68-F	Indoor temp: 67-F	By: Digi-Sense infrared thermometer
Body surface temp: 71-F	Area taken: Abdomen	By: Digi-Sense infrared thermometer
Decedent is: Cool to touch	Body position: Prone	On Surface: Couch



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Case-Types

Alcohol/Medication and/or Poisoning

Burns/Fire

Carbon Monoxide (concern for)

Cutting/Stabbing

Drowning in Different Bodies of Water

Exposure Deaths

Falls

Firearms

Hanging

Industrial/Work Related

Motor Vehicle Collision

Pediatric (1 year - 18 years)




Skeletal Remains

Suicide

SUID





Case-Type Information

Case Type Details	
 Items have available information	
 BU - Burns/Fire	
FI - Firearm	
	HA - Hanging
IN - Industrial/Work Related	
MV - Motor Vehicle Collision	
AL - Alcohol/Medication and/or Driving	
Position of body	Fully suspended
Feet on ground	
Type of ligature	Electrical cord
Texture of ligature	Patterned
Length of ligature	18 inches
No. encircles neck	Once
Ligature attached to	Support beam




Case-Type Information

Case Type Details	
 Items have available information	
FA - Falls	
BU - Burns/Fire	
 FI - Firearm	
HA - Hanging	
IN - Industrial/Work Related	
MM - Motor Vehicle Collision	
Type of Firearm	<input type="text"/>
Description	Revolver
Caliber/Gauge	Revolver
Serial No. of firearm	Pistol
Barrel Length (long gun)	Single shot shotgun
Ammunition Type	Pump-action shotgun
No. of Spent Shells	Semi-automatic shotgun
Location of spent shell	sawed off shotgun
Location of Firearm	double barrel shot gun
	black powder rifle



Case-Type Information

Case Type Details

 Items have available information

FA - Falls
BU - Burns/Fire
FI - Firearm
HA - Hanging
IN - Industrial/Work Related
MM - Motor Vehicle Collision

Type of Firearm

Description

Caliber/Gauge

Serial No. of firearm

Barrel Length (long gun)

Ammunition Type

No. of Spent Shells

Location of spent shell

Location of Firearm



CASE TYPE

Firearm		
	Type of Firearm	Handgun - Smith & Wesson Model 686
	Description	Revolver
	Caliber/Gauge	.357
	Action Type	Double action
	Weapon Present	Yes
	Serial Number	170346
	Overall Length	7.5 inches
	Barrel Length	2.5 inches
	Ammunition Type	Remington .357 Magnum HPJ (High Performance Jacket)
	Number of Spent Cartridge(s)	One [1]
	Location of Spent Cartridge(s)	Cylinder
	Location of Firearm	On bed; next to decedent's right shoulder
	Handedness	Right
	Cleaning Material Present	None
	Fingertip to Axilla Measurement	29 inches
	Trigger Instrument	No
	Soot on Hand(s)?	Right



Onondaga County Medical Examiner's Office



Case Types

2021



ONONDAGA COUNTY MEDICAL EXAMINER'S OFFICE DEATH INVESTIGATION REPORT

CASE TYPE

Alcohol / Medication and/or Poisoning	Type of Substance	Illicit Drugs; Alcohol
	Location / Amount of Alcoholic Beverage Containers	Sixteen - 12 oz. empty bottles labeled Budweiser beer on bed
	Potential Illicit Drug(s) / Paraphernalia	Red and blue stamped glassine packers = "Death Jam"; as well as two (2) hypodermic needles on bed
	Location of Medication Containers	22 prescription medication containers on chest of drawers in same bedroom with decedent
	Potential Drug(s) involved	Illicit / Prescription
	Probable Route of Drug Entry	Injection / Ingestion
	Fresh Needle Punctures	Yes – left antecubital fossa
	Track Mark Scars	Yes – both right and left arms
	Evidence of "Track- Type" marks?	Yes – Fresh punctate wounds of the right forearm
	Multiple Scripts for the Same Medication from Multiple Medical Providers	Yes
	Prescribed to Decedent	Yes
	Stockpiling Medication	No
	Medication Prescribed Decedent	See Detailed Prescription Medication Log (all medical containers collected into MEO custody)
	Any Known Hypersensitivity/Allergy to Medications or Substances	Yes: - Anaphylactic allergy to penicillin - Skin rash from sulfur medications



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Quality Assurance / Quality Improvement

- QA/QI programs are essential in all medicolegal offices
 - Forensic investigation (scene) reports
 - Autopsy reports
 - Toxicology reports
- Accurate documentation is paramount in forensic cases
- Information is used by a multitude of stakeholders (e.g., CFRT, SFRT, OFRT, SUDORS)



Interviewing – Ideal State

- C/ME to interview kin, eyewitnesses, friends, etc.
 - Scene
 - Hospital
 - Telephone
- Scene dependent: If possible, separate kin/witnesses and interview one-on-one
- Non-accusatory questioning with a compassionate and inquiry-based method



Interviewing – Ideal State

- Last known alive, by whom
 - Snoring loudly in bed
- Found; by whom
- Medical history
- Mental health history
- Tobacco/Vaping use
- Alcohol misuse
- Prescription medication misuse
- Use of illicit drugs (how long)
- Drug of preference; administered
- Triggering factors for drug use
- Withdrawal symptoms
- Change in behavior/appearance
- Recently borrowed money



Interviewing – Ideal State

- Treatment for drug misuse
 - How many treatment interventions
- Known to recently been sober; if so, how long?
- Recent release from treatment facility (rehabilitation)
- Recent release from incarceration
- Previous overdose(s)
 - Medical treatment received
 - Medication-assisted treatment (e.g., Suboxone®, methadone)



Figure captured and adapted from: <https://www.freeimages.com/photo/comfort-closeup-1257549>. Photo by Peter Skadberg.



Early Crisis Grief



Figure captured and adapted from: <https://www.freeimages.com/photo/bricks-texture-2-1150345>. Photo by IsisK.



**MEDICAL EXAMINER'S OFFICE
ONONDAGA COUNTY HEALTH DEPARTMENT
CENTER FOR FORENSIC SCIENCES**

J. RYAN McMAHON, II
County Executive

INDU GUPTA, MD, MPH
Commissioner of Health

Next-of-Kin Interview Guide

1. Introduction
2. Offer condolences
3. Explain the OCMEO involvement
4. Interview – ***do not*** immediately go into discussion regarding an autopsy
 - a. Obtain all necessary demographic information
 - i. Name, address, telephone contact number(s), DOB of person(s) being interviewed
 - ii. Verify spelling of the decedent's name (e.g. Jr., Sr., II, IV, etc.), DOB, address
 - b. Medical history (e.g., cardiac disease, diabetes – type 1 or type 2, seizure history, hypertension, COPD, cancer, renal disease, HIV, hepatitis, TB, etc.)
 - i. Primary care provider (any specialists – e.g. cardiologist, neurologist, pulmonologist, psychiatrist, etc.)
 - ii. Recent hospitalizations (especially the last two months – needed for the death certificate)
 - iii. Surgeries
 - iv. Medications
 - v. If female, pregnant within the past 12-months (if so, date of delivery, miscarriage)



c. Social history

1. Marital status? (e.g., married, separated, legally separated, divorced, widowed, never married, domestic partner)
2. Children? Ages? DOB's?
3. Occupation?
4. Cigarette smoker – if so, how many packs per day and for how many years? If the NOK answers “No”, ask if there was ever a history of smoking (even cigars or chewing tobacco)
5. Alcohol use – how often and how much (e.g., daily, social, rare occasion)? If the NOK answers “No”, ask about a history of alcohol use/misuse (e.g., sober 10-years, but prior to that consumed 10-15 beers per day)
6. Illicit drug use – type(s) and how often (e.g., marijuana, cocaine, heroin)? If the NOK answers “No”, ask if there was ever a history.
 - a. Recently sober; if so, how long?
 - b. Treatment interventions (how many; where)?
 - c. Release for any type of facility?
 - d. Previous overdose(s)
 - e. Medical treatment received
 - f. Medication-assisted treatment (e.g., Suboxone®, methadone)|



MEDICAL / SOCIAL HISTORY:

The decedent's father and mother, Dr. & Mrs. Smith, provided the following information:

Medical History:

The decedent's history was significant human immunodeficiency virus (HIV) which was diagnosed in 2010. His antiretroviral therapy (ART) consisted of an injection of Cabenuva® (cabotegravir and rilpivirine) every two

The decedent began consuming excessive alcohol around age 22. At age 23 was injured in a bicycle accident and underwent repair of his meniscus. He was released from the hospital with oxycodone and he continued to take the medication for over a month and became "addicted". His orthopedic physician refused to prescription any further opioids and attempted to admit him to inpatient detoxification, but the decedent refused. He began buying oxycodone off the street, but the medication was too expensive, as an 80-mg tablet cost \$80.00. He transitioned to heroin in late 2018, which at that time cost around \$15 a single bag. In a matter of months, he became a heavy heroin user, and his habit cost him anywhere from \$150-\$200 per day. Dr. Smith voiced his sadness and depression when stating that it is astonishing to him that in most states a bag of heroin is cheaper than a pack of cigarettes. There was no known recent attempts at suicide or suicide ideation voiced to family members.

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Psychosocial Investigations

- If the circumstances surrounding a death are equivocal, psychological consultants can compile information retrospectively about a deceased person's mental health and possible motive to assist with unravelling ambiguity about the manner of death¹

Accident

Suicide

Homicide

Undetermined



Psychosocial Investigations

- Provide the Coroner / Medical Examiner with the analysis to aid in the determination of the manner of death

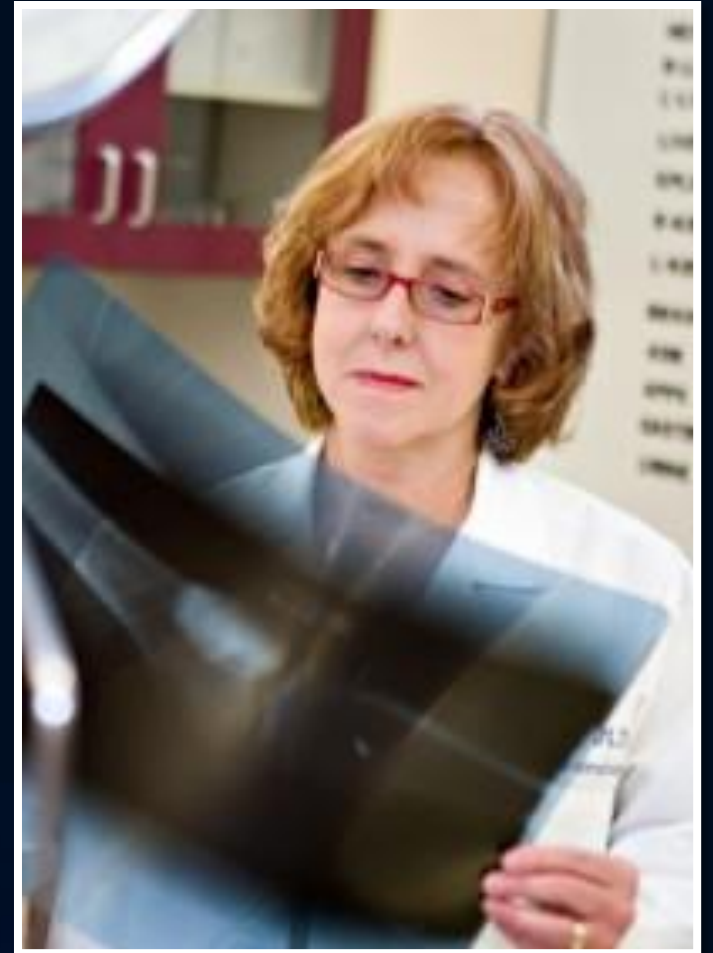


Figure captured and adapted from: Marc Safran studio & art photography.
Photo by Marc Safran, M.D.



Medicolegal Death Investigation

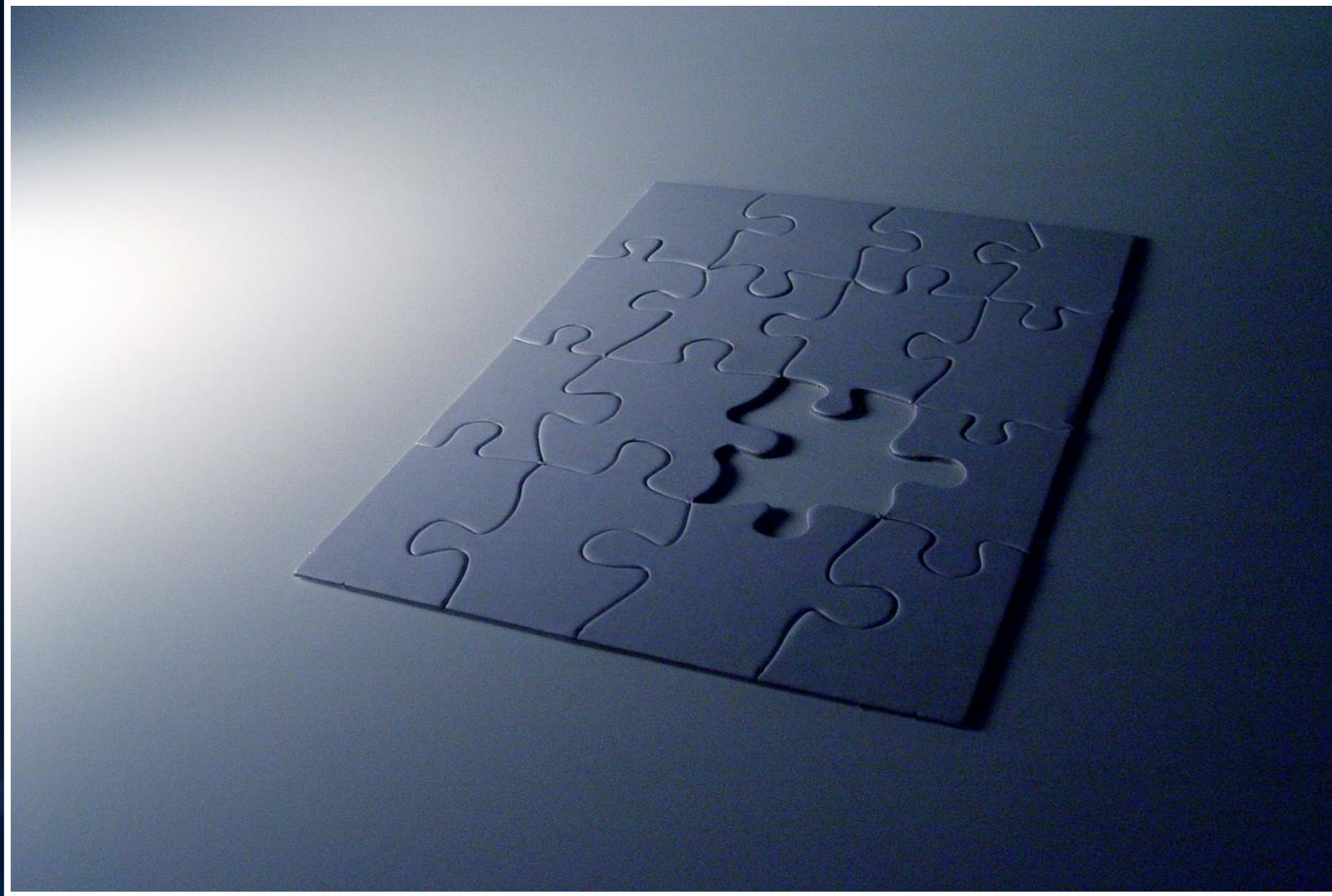


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Medicolegal Death Investigation

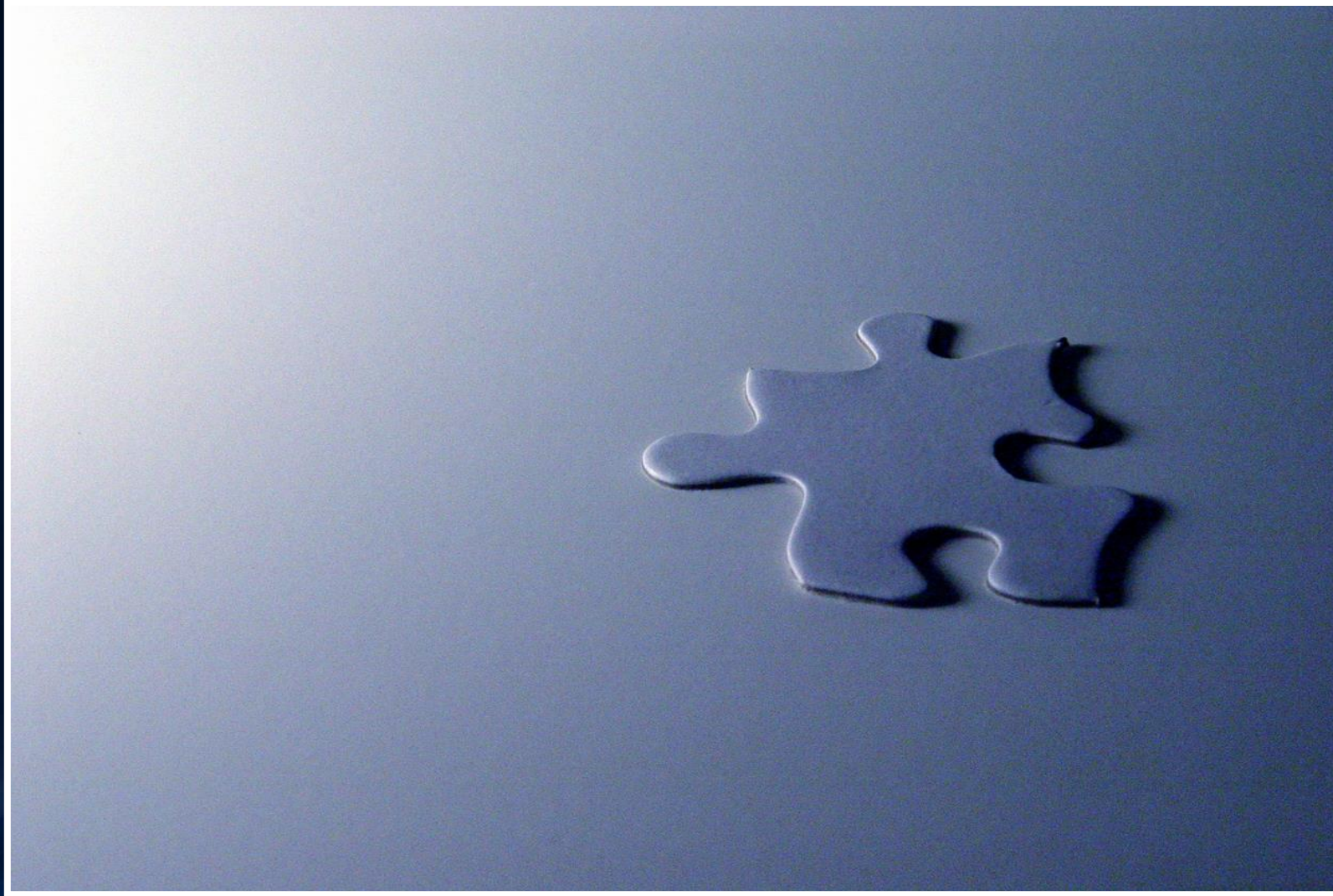
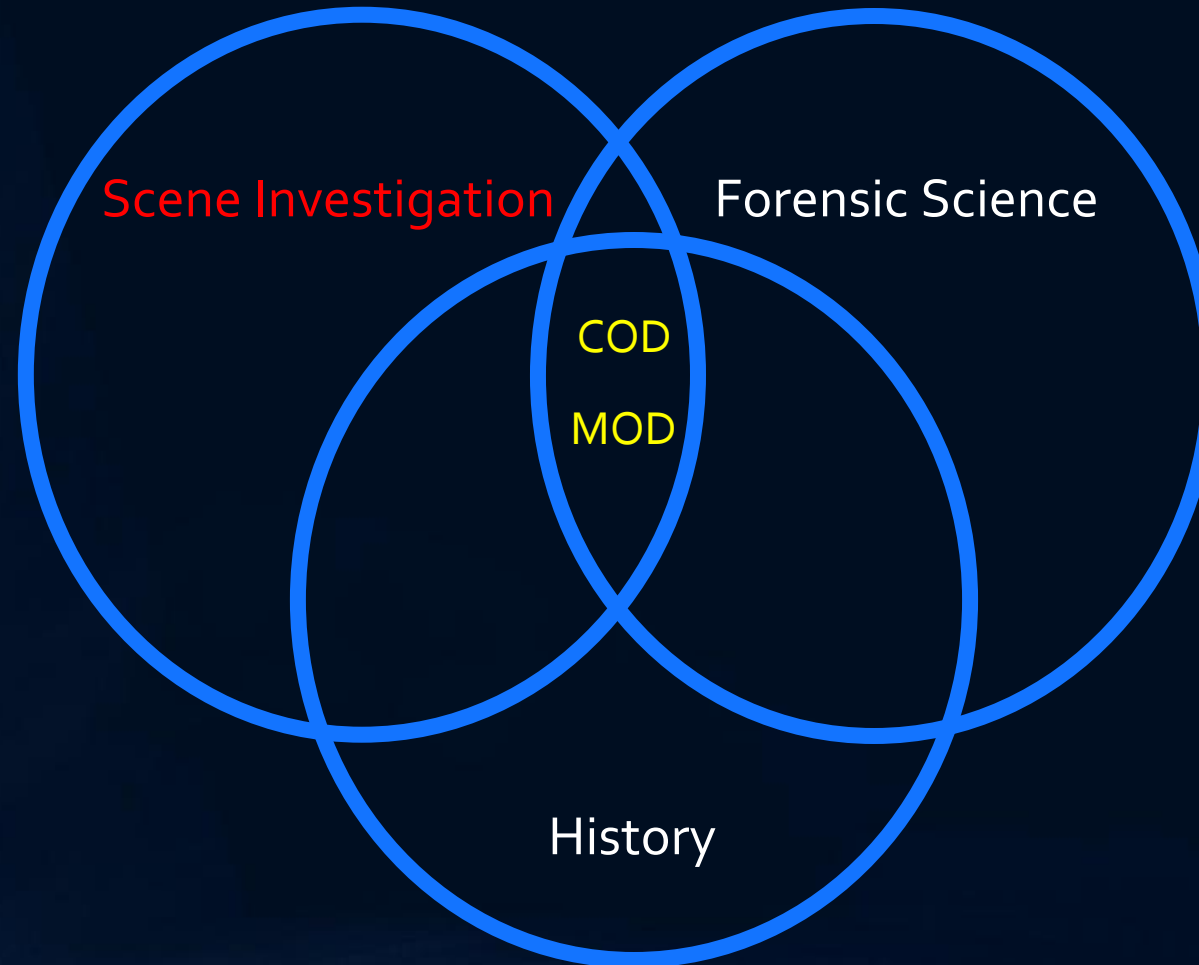


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Medicolegal Death Investigation



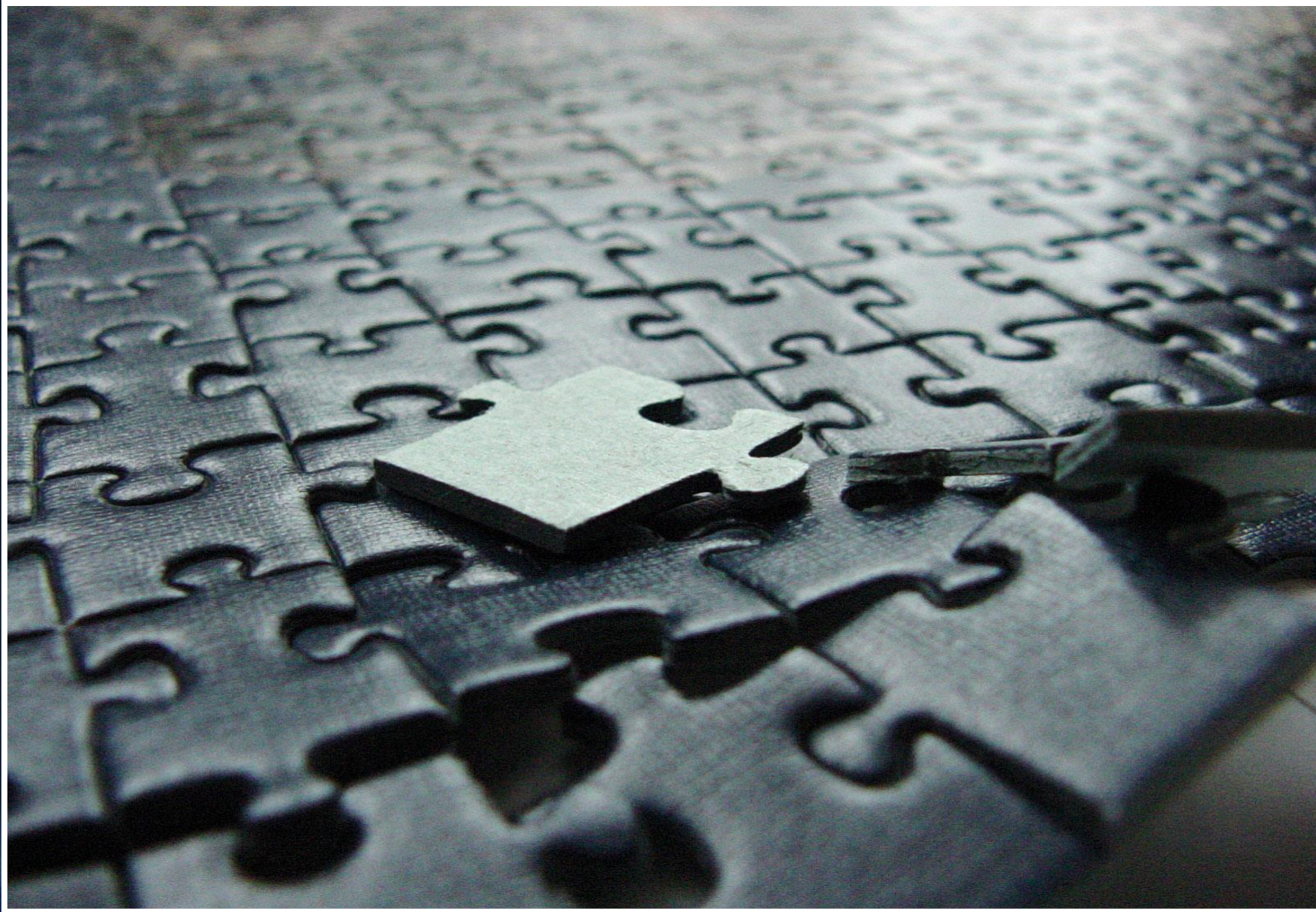


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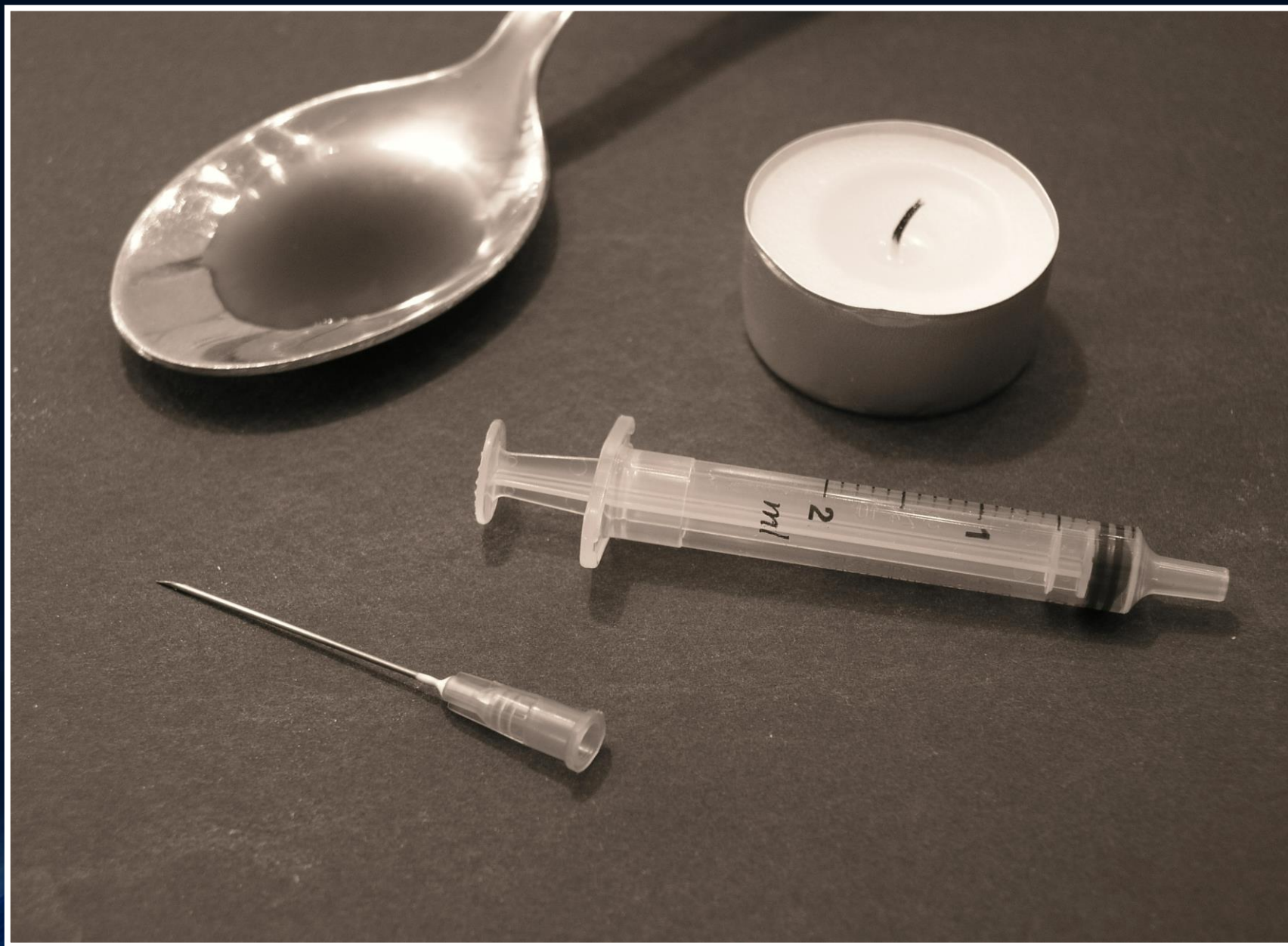


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Figure captured and adapted from: <https://www.freeimages.com/photo/addiction-1514652>. Photo by Charles Thompson.



Figure captured and adapted from: <https://www.freeimages.com/photo/somewhere-in-antwerp-1-1227817>. Photo by Robin Goossens.

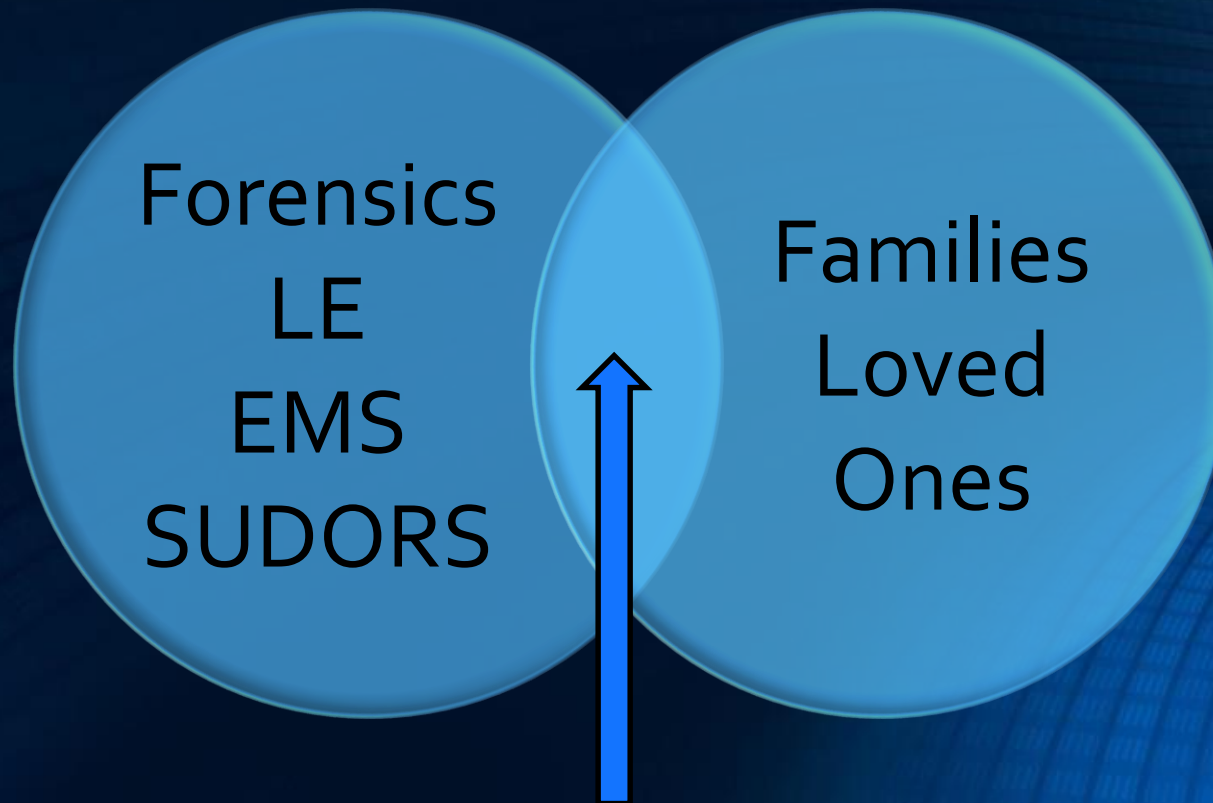


Figure captured and adapted from: <https://www.freeimages.com/photo/thinking-chair-1546625>. Photo by Andy Barton.



Drug Toxicity-Related Overdoses

Working Together

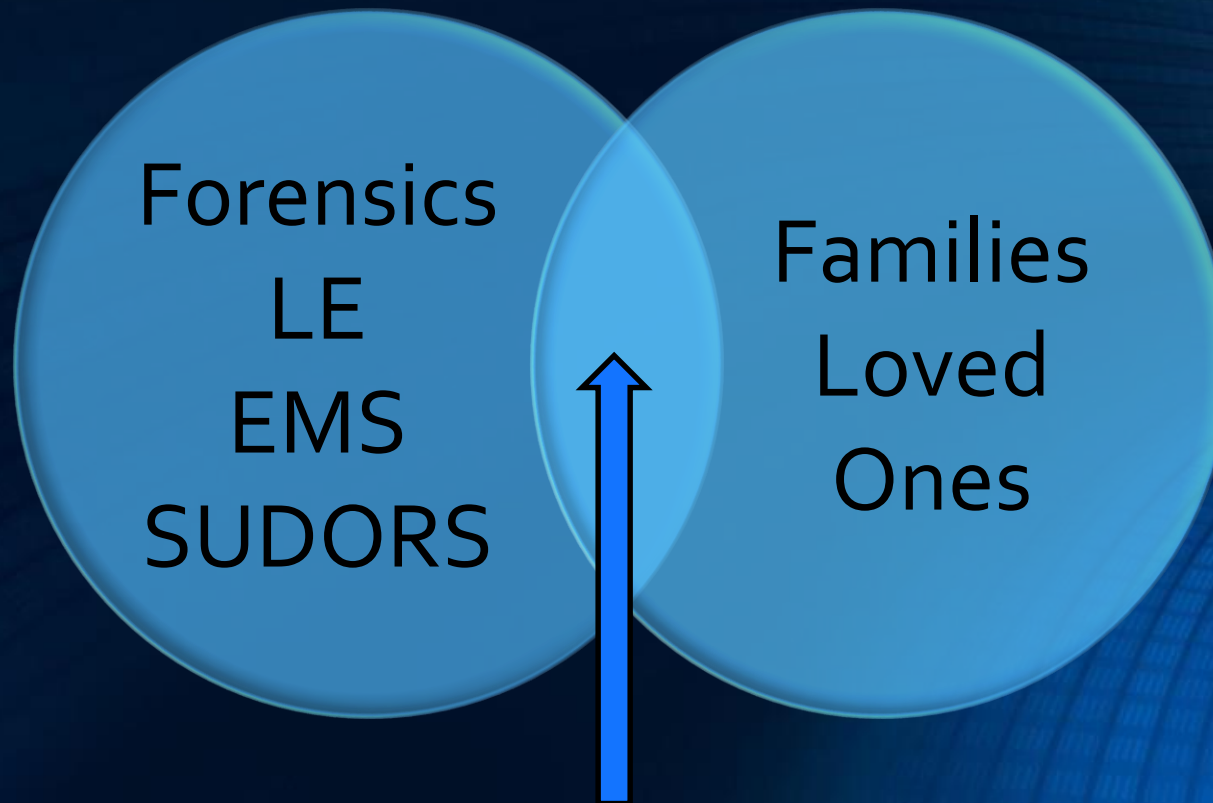


Prevention of Future Deaths



Drug Toxicity-Related Overdoses

Working Together



Saving Our Families



Thank You

- Thank you to the SUDORS Workgroup for the invitation to present this afternoon
- Ideal state – the role of medicolegal death investigation and how C/ME must work together as a **Team** with SUDORS and all stakeholders to save families from the destruction and devastation of this epidemic



Figure captured and adapted from: <https://www.freeimages.com/photo/sunset-1528971>. Photo by Krzysztof Baranski.





Questions?

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