



# Forensic Research

AUGUST 16, 2017

DEPARTMENT OF JUSTICE  
**ElderJustice**  
INITIATIVE



**OVCTTAC**  
OFFICE FOR VICTIMS OF CRIME Training and Technical Assistance Center



# TECHNICAL OVERVIEW

---

- ▶ If you are experiencing any technical issues with the audio for this session, please let us know in the feedback box.
- ▶ If you have technical difficulties during the webinar, contact Danielle McLean, who is providing technical support for this webinar. Her email address is [dmclean@ovcttac.org](mailto:dmclean@ovcttac.org).
- ▶ Today's session will be recorded and made available on the training website.
- ▶ If you have questions, type them in the feedback box. We will address as many as possible throughout the webinar.

# TODAY'S WEBINAR

---

## Improving Emergency Department Identification of Elder Abuse: Findings from Forensic Research

*Tony Rosen, M.D., M.P.H.*

*Instructor in Medicine  
Division of Emergency Medicine*

*Weill Cornell Medical College*

# ELDER JUSTICE INITIATIVE

---

- The **mission** is to support and coordinate the Department of Justice's enforcement and programmatic efforts to combat elder abuse, neglect, and financial fraud and scams that target older adults.
- The Initiative does so by—
  - Promoting justice for older adults.
  - Helping older victims and their families.
  - Enhancing state and local efforts through training and resources.
  - Supporting, organizing, and presenting research to improve elder abuse policy and practice.

# ElderJustice.gov



THE UNITED STATES  
DEPARTMENT OF JUSTICE

en ESPAÑOL



Search this site



HOME ABOUT AGENCIES BUSINESS RESOURCES NEWS CAREERS CONTACT

Home

en Español

SAFE EXIT

Elder Justice Initiative Home

- ▶ Victims, Families, & Caregivers
- ▶ Financial Exploitation
- ▶ Prosecutors
- ▶ Law Enforcement
- ▶ Victim Specialists
- ▶ Research & Related Literature
- ▶ Press Room & Announcements
- ▶ Contact Us

ELDER JUSTICE INITIATIVE (EJI)

REPORT ABUSE OR FIND HELP

Find sample pleadings, documents, statutes, and training videos

PROSECUTORS

1 2 3 4 5 6 7 ▶



Promoting Justice for Older Americans



Helping Older Victims and Their Families



Enhancing State and Local Efforts Through Training and Resources



Supporting Research to Improve Elder Abuse Policy and Practice

DEPARTMENT OF JUSTICE

ElderJustice  
INITIATIVE

# Introducing

---



**Anthony E. Rosen, M.D., M.P.H., is an instructor of medicine at the Weill Cornell Medical College and a practicing emergency physician at New York-Presbyterian Hospital.**

# Improving Emergency Department Identification of Elder Abuse: Findings from Forensic Research

Tony Rosen, M.D., M.P.H.

Instructor in Medicine

Division of Emergency Medicine

Weill Cornell Medical College

Discussion with:  
Sidney M. Stahl, Ph.D.  
USDOJ Research Consultant

# DISCLOSURE OF COMMERCIAL RELATIONSHIP(S)

No financial conflicts of interest to disclose.

## Elder Abuse Research Supported By

### R03 GEMSSTAR (2014-6)

Grants for Early Medical/Surgical Specialists' Transition to Aging Research



### Jahnigen Scholarship

Supplemental career development award



AGS

## Additional Funding Recently Received

### K76 Beeson (2016-21)

Paul B. Beeson Emerging Leaders in Aging Career Development Award



### Foundation Support



# ELDER ABUSE



- Common and has serious consequences
  - *10% experience abuse or neglect each year*
  - *Victimization increases risk of mortality, emergency department presentation, hospitalization, nursing home placement, depression*
- Under-recognized and under-reported
  - *As few as 1 in 24 cases identified*





# IDENTIFYING ELDER ABUSE

---

## ED AN IMPORTANT OPPORTUNITY

- Evaluation by health care provider may be only time abused older adult leaves the home
- Abuse victim less likely to see a primary care provider, more likely to present to an ED
  - *EDs typically manage acute injuries and illnesses*



# IDENTIFYING ELDER ABUSE

## HEALTH CARE AN IMPORTANT OPPORTUNITY

- Evaluation by health care provider may be only time abused older adult leaves the home
- Abuse victim less likely to see a primary care provider, more likely to present to an ED
  - *EDs/hospitals typically manage acute injuries and illnesses*

ED may be an ideal opportunity to identify and intervene

- Varied disciplines observing a patient
- Evaluation typically prolonged
- Resources available 24/7

**BUT...**



# IDENTIFYING ELDER ABUSE IN THE ED

## BARRIERS/DISINCENTIVES

### *ED providers seldom identify or report*

- Lack of time to conduct a thorough evaluation
- Lack of awareness or inadequate training
- Fear and distrust of the legal system
- Denial by patient him/herself
- Ambiguities surrounding decisionmaking capacity in victimized older adults
- Absence of a protocol for a streamlined response



Difficulty distinguishing abuse from accidental trauma or illness

## CHALLENGES IN ELDER ABUSE FORENSICS

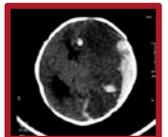
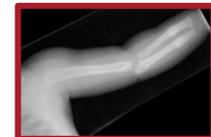
# FORENSICS IN CHILD ABUSE DETECTION

## THE BATTERED-CHILD SYNDROME

C. HENRY KEMPE, M.D., DENVER, FREDERIC N. SILVERMAN, M.D.,  
CINCINNATI, BRANDT F. STEELE, M.D., WILLIAM DROEGEMUELLER, M.D.,  
AND HENRY K. SILVER, M.D., DENVER

Professor and Chairman (Dr. Kempe) and Professor of Pediatrics (Dr. Silver), Department of Pediatrics; Associate Professor of Psychiatry (Dr. Steele), and Assistant Resident in Obstetrics and Gynecology (Dr. Droegenmueller), University of Colorado School of Medicine; and Director, Division of Roentgenology, Children's Hospital (Dr. Silverman).

**Abstract**—The battered-child syndrome, a clinical condition in young children who have received serious physical abuse, is a frequent cause of permanent injury or death. The syndrome should be considered in any child exhibiting evidence of fracture of any bone, subdural hematoma, failure to thrive, soft tissue swellings or skin bruising, in any child who dies suddenly, or where the degree and type of injury is at variance with the history given regarding the occurrence of the trauma. Psychiatric factors are probably of prime importance in the pathogenesis of the disorder, but knowledge of these factors is limited. Physicians have a duty and responsibility to the child to require a full evaluation of the problem and to guarantee that no expected repetition of trauma occurs.



- Bruising of ears, cheeks, buttocks, palms, soles, neck, genitals
- Bruising not over bony prominences
- Bruising in children too young to ambulate
- Metaphyseal fracture
- Multiple posterior rib fractures
- Spinous process fractures
- Burn with immersion pattern
- Subdural hematoma
- Retinal hemorrhages

## Diagnostic Imaging in Infant Abuse

Paul K. Kleinman<sup>1</sup>

In 1962, the battered child syndrome was first described as a serious physical injury to children. This material is copyrighted by the American Academy of Child and Adolescent Psychiatry.

ARTICLE

## Bruises in Infants and Toddlers

*Those Who Don't Bruise Rarely Bruise*

Naomi F. Sugar, MD; James A. Taylor, MD; Kenneth W. Feldman, MD;  
and the Puget Sound Pediatric Research Network

# ELDER ABUSE VS. CHILD ABUSE

CONFIDENTLY  
IDENTIFYING  
ELDER ABUSE  
IS HARDER

- Physiologic changes in aging
- Common medications
- Varied functional status

MUCH LESS  
EVIDENCE TO  
ASSIST IN  
ELDER ABUSE  
FORENSICS

*More than 1,000* peer-reviewed articles systematically examining child abuse-related injuries

VS.



Distinguishing abuse from accidental trauma or illness

## OBJECTIVE

---

To identify *injury patterns* associated with physical elder abuse

# IMPROVING IDENTIFICATION OF ABUSE

## METHODOLOGIC CHALLENGE

Identifying definitive instances of elder abuse to study in detail

## SOLUTION

- Comprehensive analysis of legal files from highly adjudicated physical elder abuse cases in which the presence of abuse is indisputable
  - *Focus on photographs of injuries, medical records*



Brooklyn District Attorney  
Elder Abuse Unit

# IMPROVING IDENTIFICATION OF ABUSE

---

## COMPARING INJURY PATTERNS

Case-control study comparing injury patterns, physical findings, forensic biomarkers, and photographic evidence from

Physical elder abuse victims



to

Geriatric patients presenting  
to the Emergency Department  
after accidental fall



# OVERCOMING METHODOLOGIC ISSUES

## PHOTOGRAPHY PROTOCOL

Developed and evaluated a standardized protocol for photographing injuries by non-photographers in the acute care setting

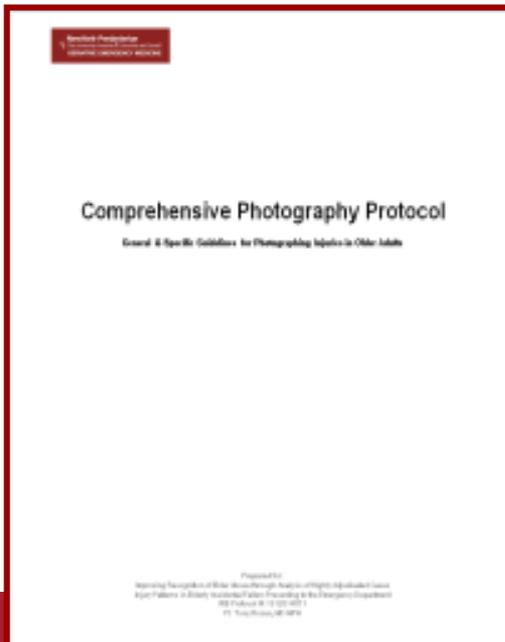


Figure: Photos Required for Each Injury

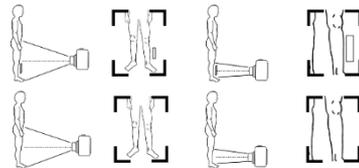


Table: Body Positioning to Photograph Injuries on the Arm

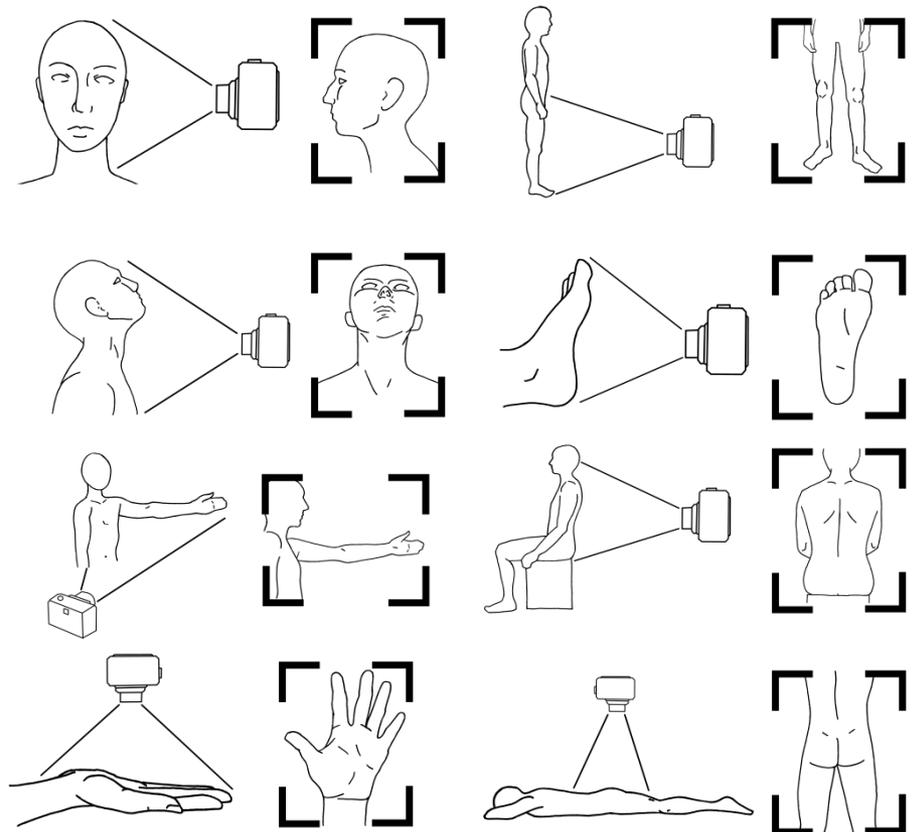
Diagram	Region of the Arm
	Radial / Anterolateral Surface
	Dorsal / Lateral Surface
	Ulnar / Posterolateral Surface
	Volar / Medial Surface
	Elbow



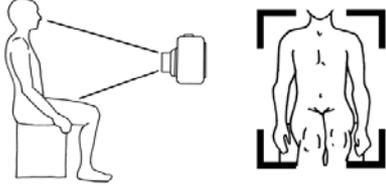
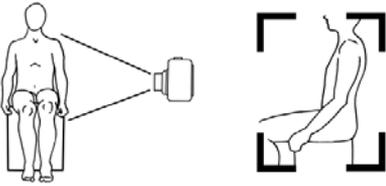
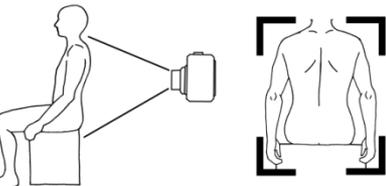
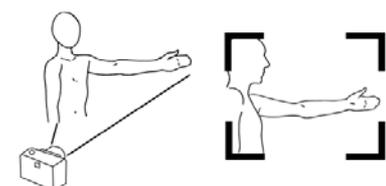
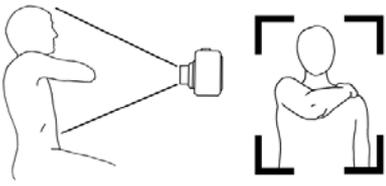
# PHOTOGRAPHY PROTOCOL

## Appropriate body positioning for 8 body regions

- Skull/Brain
- Maxillofacial/Dental/Neck
- Arms
- Hands
- Legs
- Feet
- Chest/Abdomen/Back
- Pelvis/Buttocks

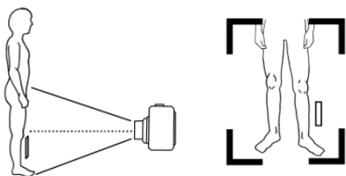


# PHOTOGRAPHY PROTOCOL

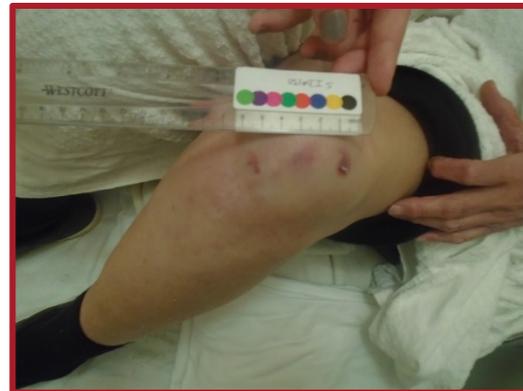
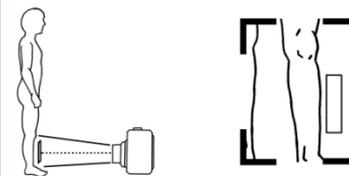
Diagram	Description	Injury Location(s)
	<p>Have the subject sit with their arm at their side and relaxed. Stand in front of the subject facing them with your shoulders parallel to theirs, and position yourself directly in front of the injured arm.</p>	<p>Radial/anterolateral surface</p>
	<p>Have the subject sit with their arm at their side and relaxed. Stand directly to the side of the subject, so that their shoulders and your shoulders are perpendicular.</p>	<p>Dorsal/lateral surface</p>
	<p>Have the subject sit with their arm at their side and relaxed. Stand behind the subject facing the back of their head with your shoulders parallel to theirs, and position yourself directly behind the injured arm.</p>	<p>Ulnar/posterolateral surface</p>
	<p>Move to stand across the bed from the subject's injured arm. Stand so that their shoulders and your shoulders are perpendicular. Have the other RA stand directly in front of and to the side of the injured arm. Have the subject hold their arm straight out, thumb up, and place their hand in the other RA's hand.</p>	<p>Volar/medial surface</p>
	<p>Have the subject take their hand with the injured arm and place it on their opposite shoulder. Stand directly in front of the subject.</p>	<p>Elbow</p>

# PHOTOGRAPHY PROTOCOL

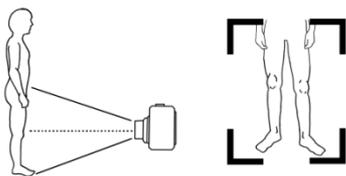
#1 Distance Photo With Ruler



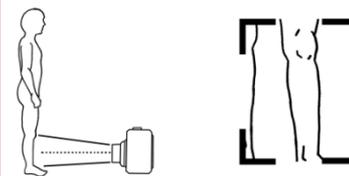
#3 Close-Up Photo With Ruler



#2 Distance Photo Without Ruler



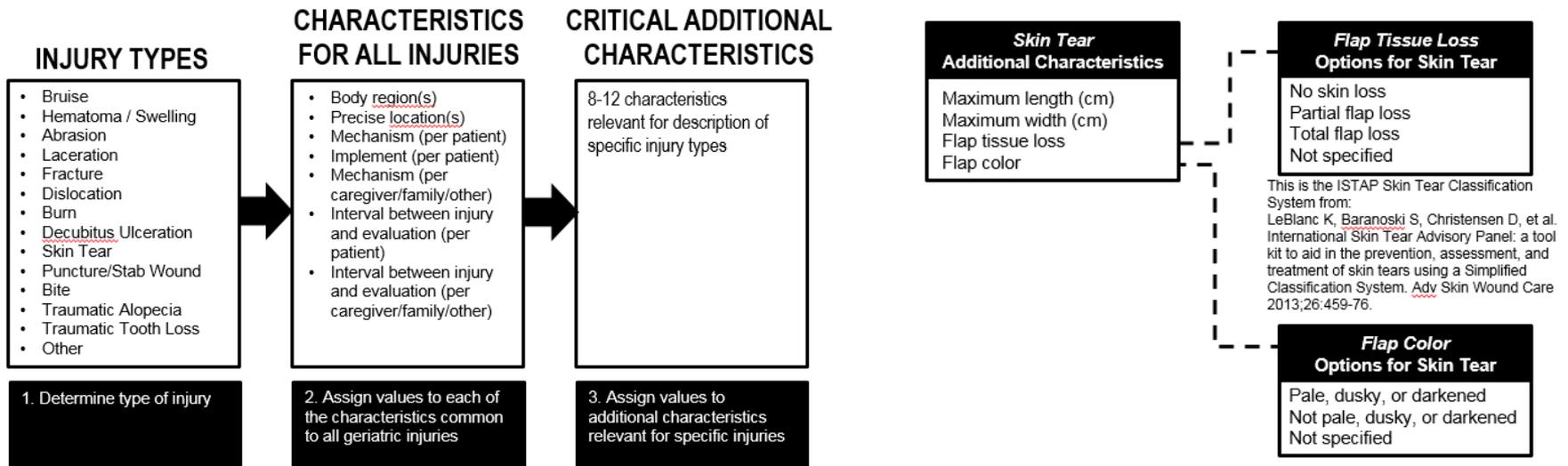
#4 Close-Up Photo Without Ruler



# OVERCOMING METHODOLOGIC ISSUES

## CLASSIFICATION SYSTEM

Developed a comprehensive classification system/taxonomy to describe geriatric injuries



# RESEARCH UPDATE/PRELIMINARY FINDINGS

- Have examined 100 cases of physical elder abuse, enrolled 300 fall victims in NYP/WCMC ED

**Table 1: Characteristics of injuries of physical elder abuse victims vs. matched geriatric accidental fall victims presenting to an urban ED**

	abuse victims %	fall victims %	p-value
<b>Injury type</b>			
Bruise	75	54	0.009
Abrasion	32	51	0.03
Laceration	35	22	0.10
Fracture	7	33	<0.001
Skin Tear	2	6	0.37
Other	11	18	0.24
Multiple injury types	45	58	0.12
<b>Body region(s) injured</b>			
Maxillofacial/dental/neck	63	33	0.001
Upper extremity	40	36	0.62
Chest/abdomen/back	25	12	0.06
Skull/brain	18	7	0.06
Lower extremity	9	43	<0.001
Pelvis/buttocks	2	15	0.009
Multiple body regions injured	43	34	0.30

# RESEARCH UPDATE/PRELIMINARY FINDINGS

- Have examined 100 cases of physical elder abuse, enrolled 300 fall victims in NYP/WCMC ED

**Table 1: Characteristics of injuries of physical elder abuse victims vs. matched geriatric accidental fall victims presenting to an urban ED**

	abuse victims %	fall victims %	p-value
Injury type			
Bruise	75	54	0.009
Abrasion	32	51	0.03
Laceration	35	22	0.10
Fracture	7	33	<0.001
Skin Tear	2	6	0.37
Other	11	18	0.24
Multiple injury types	45	58	0.12
Body region(s) injured			
Maxillofacial/dental/neck	63	33	0.001
Upper extremity	40	36	0.62
Chest/abdomen/back	25	12	0.06
Skull/brain	18	7	0.06
Lower extremity	9	43	<0.001
Pelvis/buttocks	2	15	0.009
Multiple body regions injured	43	34	0.30

# RESEARCH UPDATE/PRELIMINARY FINDINGS

- Have examined 100 cases of physical elder abuse, enrolled 300 fall victims in NYP/WCMC ED

**Table 1: Characteristics of injuries of physical elder abuse victims vs. matched geriatric accidental fall victims presenting to an urban ED**

	abuse victims %	fall victims %	p-value
<b>Injury type</b>			
Bruise	75	54	0.009
Abrasion	32	51	0.03
Laceration	35	22	0.10
Fracture	7	33	<0.001
Skin Tear	2	6	0.37
Other	11	18	0.24
Multiple injury types	45	58	0.12
<b>Body region(s) injured</b>			
Maxillofacial/dental/neck	63	33	0.001
Upper extremity	40	36	0.62
Chest/abdomen/back	25	12	0.06
Skull/brain	18	7	0.06
Lower extremity	9	43	<0.001
Pelvis/buttocks	2	15	0.009
Multiple body regions injured	43	34	0.30

# RESEARCH UPDATE/PRELIMINARY FINDINGS

- Have examined 100 cases of physical elder abuse, enrolled 300 fall victims in NYP/WCMC ED

**Table 1: Characteristics of injuries of physical elder abuse victims vs. matched geriatric accidental fall victims presenting to an urban ED**

	abuse victims %	fall victims %	p-value
<b>Injury type</b>			
Bruise	75	54	0.009
Abrasion	32	51	0.03
Laceration	35	22	0.10
Fracture	7	33	<0.001
Skin Tear	2	6	0.37
Other	11	18	0.24
Multiple injury types	45	58	0.12
<b>Body region(s) injured</b>			
Maxillofacial/dental/neck	63	33	0.001
Upper extremity	40	36	0.62
Chest/abdomen/back	25	12	0.06
Skull/brain	18	7	0.06
Lower extremity	9	43	<0.001
Pelvis/buttocks	2	15	0.009
Multiple body regions injured	43	34	0.30

# RESEARCH UPDATE/PRELIMINARY FINDINGS

## FOCUS ON PRECISE LOCATIONS

- Physical elder abuse victims were more likely to have injuries in the:
  - **Left peri-orbital area** (20% vs. 7%,  $p=0.04$ )  
*Supports existing literature examining younger adult assault victims, which has found that left-sided facial injuries are more frequent after assault than right-sided, likely because most assailants are right-handed*
  - **Ulnar forearm** (10% vs. 2%,  $p=0.06$ )  
*Confirms previous research and the hypothesis that this pattern of injury may occur when a victim defends him/herself from an abuser*
  - **Neck** (9% vs. 0%,  $p=0.01$ )  
*Confirms our finding in examination of National Trauma Databank*

# RESEARCH UPDATE/PRELIMINARY FINDINGS

## FOCUS ON PRECISE LOCATIONS

- **Ulnar forearm** (10% vs. 2%,  $p=0.06$ )  
*Confirms previous research and the hypothesis that this pattern of injury may occur when a victim defends him/herself from an abuser*
- **Neck** (9% vs. 0%,  $p=0.01$ )  
*Confirms our finding in examination of National Trauma Databank*

*May represent potentially pathognomonic injury patterns*

## PRELIMINARY CONCLUSIONS

---

- Specific, clinically identifiable differences may exist between unintentional injuries and those from physical elder abuse
  - Bruising and injuries on the maxillofacial/dental/neck region, particularly the left peri-orbit, more common in abuse
  - Injuries to the ulnar forearm and neck occurred in abuse but very seldom in accidental injury

# LIMITATIONS

---

- Information in legal case files not intended for research often incomplete, with photographs and/or medical records missing
- Focusing on highly adjudicated cases elucidates characteristics only of elder abuse victims that have been identified
- Comparison group of ED fall victims may differ significantly from cases in unmeasured ways
- Patterns in elder abuse injury in a single urban area may not be generalizable

# FUTURE RESEARCH/NEXT STEPS

---

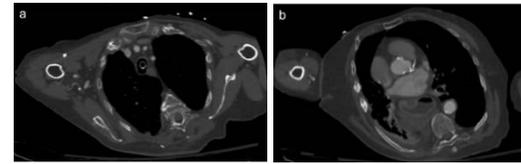
- Prospectively enroll and comprehensively evaluate victims of physical elder abuse to test our injury pattern findings
- Derive and validate a clinical prediction rule to assist busy clinical providers in identifying physical elder abuse



**K76 Beeson (2016-21)**

Paul B. Beeson Emerging Leaders in Aging  
Career Development Award

# ADDITIONAL FORENSIC PROJECTS EMPOWERING RADIOLOGISTS



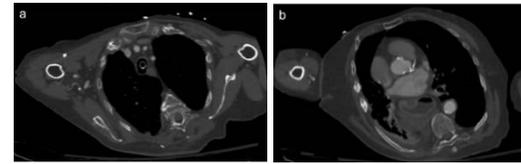
Play a critical role in the detection of child abuse in the ED,  
*but imaging correlates of elder abuse have not been described*

## Qualitative Interview Research: Diagnostic Radiology Perspectives

- Few radiologists reported receiving any formal or informal training in elder abuse detection
- Even experienced radiologists reported *never* having received a request from a referring physician to assess images for evidence suggestive of elder abuse



ADDITIONAL FORENSIC PROJECTS  
EMPOWERING RADIOLOGISTS

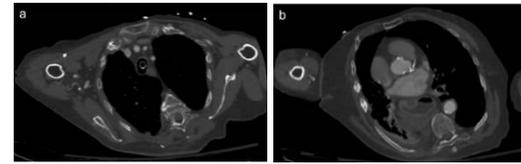


## Believe imaging correlates of elder abuse likely exist

**Table 2: Radiographic Findings Potentially Suggestive of Elder Abuse, Per Radiologists**

Upper/posterior/multiple rib fractures
Multiple subdural hematomas (particularly of different ages)
Skull fracture
Small bowel hematomas
Injuries in multiple stages of healing
Injuries inconsistent with mechanism
Multiple fractures and head trauma
Spiral fracture
Brain volume loss secondary to malnutrition
Decubitus ulcers

# ADDITIONAL FORENSIC PROJECTS EMPOWERING RADIOLOGISTS



## Reviewing case where victim reported being struck by cane and alleged abuser reported "he fell"



Ulna does not anatomically support the wrist, so you wouldn't expect distal or mid-shaft ulnar fractures after a FOOSH

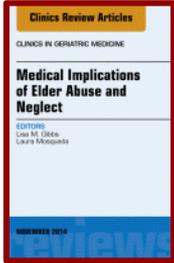


*This supports our research that ulnar forearm injured in physical elder abuse but not unintentional falls*

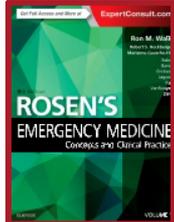


# ELDER ABUSE FORENSICS: STATE-OF-THE-ART

---



Gibbs LM, Mosqueda L, eds. Medical Implications of Elder Abuse and Neglect. Clinics in Geriatric Medicine 2014 Nov;30(4):iii-902



Rosen T, Stern ME. Chapter 186. Abuse of and Neglect of the Elderly. Rosen's Emergency Medicine, 9<sup>th</sup> Edition.



# IDENTIFYING ELDER ABUSE

---

## Physical Signs Suspicious for Potential Elder Abuse

PHYSICAL ABUSE

SEXUAL ABUSE

NEGLECT

**WARNING**  
**GRAPHIC**  
**CONTENT**

# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

---

## PHYSICAL ABUSE

- Bruising in atypical locations
- Patterned injuries
- Wrist or ankle lesions or scars
- Burns
- Multiple fractures or bruises of different ages
- Traumatic alopecia or scalp hematomas
- Subconjunctival, vitreous, or retinal ophthalmic hemorrhages
- Intraoral soft tissue injuries

*Some "falls"  
are actually abuse*

# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

## PHYSICAL ABUSE

- Bruising in atypical locations
  - Patterned injuries
  - Wrist or ankle lesions or scars
  - Burns
  - Multiple fractures or bruises of different ages
  - Traumatic alopecia or scalp hematomas
  - Subconjunctival, vitreous, or retinal ophthalmic hemorrhages
  - Intraoral soft tissue injuries
- 
- *Not over bony prominences*
  - *On lateral arms, back, face, ears, or neck*



Atypical bruising of the chest in a case of substantiated abuse  
Photo courtesy of: Center of Excellence on Elder Abuse and Neglect, University of California, Irvine, CA



Bruising on ear in abused elderly woman  
Photo from: Palmer M, Brodell RT, Mostow EN. Elder abuse: dermatologic clues and critical solutions. J Am Acad Dermatol. 2013 Feb;68(2):e37-42.

***knowing what to look for***

# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

## PHYSICAL ABUSE

- Bruising in atypical locations
  - **Patterned injuries**
  - Wrist or ankle lesions or scars
  - Burns
  - Multiple fractures or bruises of different ages
  - Traumatic alopecia or scalp hematomas
  - Subconjunctival, vitreous, or retinal ophthalmic hemorrhages
  - Intraoral soft tissue injuries
- 
- ***Bite marks***
  - ***Injury consistent with the shape of a belt buckle, fingertip, or other object***



Fingertip-patterned bruising on medial aspect of thigh

Photo from: Palmer M, Brodell RT, Mostow EN. Elder abuse: dermatologic clues and critical solutions. J Am Acad Dermatol. 2013 Feb;68(2):e37-42.



Pattern bruise on the left buttock from unknown object

Photo courtesy of: L. Gibbs, MD, Orange, CA

***knowing what to look for***

# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

## PHYSICAL ABUSE

- Bruising in atypical locations
- Patterned injuries
- **Wrist or ankle lesions or scars**
- Burns
- Multiple fractures or bruises of different ages
- Traumatic alopecia or scalp hematomas
- Subconjunctival, vitreous, or retinal ophthalmic hemorrhages
- Intraoral soft tissue injuries



Ligature mark created by wire used as restraint

Photo from: Palmer M, Brodell RT, Mostow EN. Elder abuse: dermatologic clues and critical solutions. J Am Acad Dermatol. 2013 Feb;68(2):e37-42.



Pattern bruising on lower leg from a ligature

Photo courtesy of: L. Gibbs, MD, Orange, CA

*Suggesting restraint*

*knowing what to look for*

# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

## PHYSICAL ABUSE

- Bruising in atypical locations
- Patterned injuries
- Wrist or ankle lesions or scars
- **Burns**
- Multiple fractures or bruises of different ages
- Traumatic alopecia or scalp hematomas
- Subconjunctival, vitreous, or retinal ophthalmic hemorrhages
- Intraoral soft tissue injuries

*Particularly stocking/glove pattern suggesting forced immersion or cigarette pattern*



Burn injuries on the back and buttocks from scalding water  
Photo courtesy of: Center of Excellence on Elder Abuse and Neglect, University of California, Irvine, CA



70-year-old burned by cigarette  
Photo from: Palmer M, Brodell RT, Mostow EN. Elder abuse: dermatologic clues and critical solutions. J Am Acad Dermatol. 2013 Feb;68(2):e37-42.

***knowing what to look for***

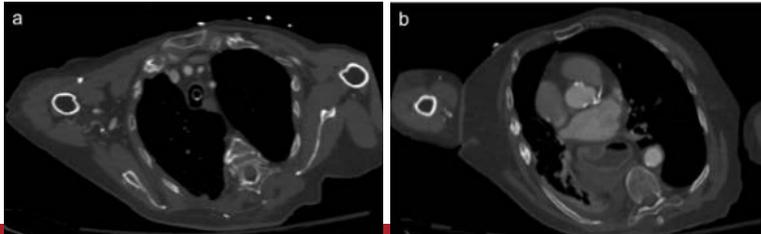
# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

## PHYSICAL ABUSE

- Bruising in atypical locations
- Patterned injuries
- Wrist or ankle lesions or scars
- Burns
- **Multiple fractures or bruises of different ages**
- Traumatic alopecia or scalp hematomas
- Subconjunctival, vitreous, or retinal ophthalmic hemorrhages
- Intraoral soft tissue injuries



Contusions at varying stages of healing on his chest and arms as well as a linear patterned injury across left anterior chest  
Photo courtesy of: D. C. Homeier



*knowing what to look for*

# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

---

## PHYSICAL ABUSE

- Bruising in atypical locations
- Patterned injuries
- Wrist or ankle lesions or scars
- Burns
- Multiple fractures or bruises of different ages
- **Traumatic alopecia or scalp hematomas**
- Subconjunctival, vitreous, or retinal ophthalmic hemorrhages
- Intraoral soft tissue injuries

# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

---

## PHYSICAL ABUSE

- Bruising in atypical locations
- Patterned injuries
- Wrist or ankle lesions or scars
- Burns
- Multiple fractures or bruises of different ages
- Traumatic alopecia or scalp hematomas
- **Subconjunctival, vitreous, or retinal ophthalmic hemorrhages**
- Intraoral soft tissue injuries

# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

---

## PHYSICAL ABUSE

- Bruising in atypical locations
- Patterned injuries
- Wrist or ankle lesions or scars
- Burns
- Multiple fractures or bruises of different ages
- Traumatic alopecia or scalp hematomas
- Subconjunctival, vitreous, or retinal ophthalmic hemorrhages
- **Intraoral soft tissue injuries**

# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

---

## SEXUAL ABUSE

- Genital, rectal, or oral trauma
- Evidence of sexually transmitted disease

# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

## SEXUAL ABUSE

- Genital, rectal, or oral trauma
- Evidence of sexually transmitted disease



Bruises on bilateral inner thighs of nursing home resident suggestive of sexual abuse  
Photo courtesy of D.C. Homeier

*Including erythema, bruising, lacerations*

*knowing what to look for*



# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

---

## NEGLECT

- Cachexia/malnutrition
- Dehydration
- Pressure sores/decubitus ulcers
- Poor body hygiene, unchanged diaper
- Dirty, severely worn clothing
- Elongated toenails
- Poor oral hygiene

# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

---

## NEGLECT

- Cachexia/malnutrition
- Dehydration
- Pressure sores/decubitus ulcers
- Poor body hygiene, unchanged diaper
- Dirty, severely worn clothing
- Elongated toenails
- Poor oral hygiene

*Muscle wasting, temporal wasting, sunken eyes*

*knowing what to look for*

# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

---

## NEGLECT

- Cachexia/malnutrition
- **Dehydration**
- Pressure sores/decubitus ulcers
- Poor body hygiene, unchanged diaper
- Dirty, severely worn clothing
- Elongated toenails
- Poor oral hygiene

*Dry mucous membranes, sunken eyes, skin tenting, severe constipation/fecal impaction*

# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

## NEGLECT

- Cachexia/malnutrition
- Dehydration
- **Pressure sores/decubitus ulcers**
- Poor body hygiene, unchanged diaper
- Dirty, severely worn clothing
- Elongated toenails
- Poor oral hygiene



Heel pressure ulcer likely due to restraint evidenced by circumferential ankle bruising  
Photo courtesy of: D.C. Homeier



Case of elder abuse neglect showing MASD and ulcers in the sacrum, buttocks, and thighs  
Photo courtesy of L. Gibbs, MD, Orange, CA.



Pressure sores in neglected patient  
Photo courtesy of D.C. Homeier

*knowing what to look for*

# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

- Cachexia/malnutrition
- Dehydration
- Pressure sores/decubitus ulcers
- **Poor body hygiene, unchanged diaper**
- Dirty, severely worn clothing
- Elongated toenails
- Poor oral hygiene



Sacral decubitus ulcer embedded with feces in a case of elder neglect.  
Photo courtesy of: Center of Excellence on Elder Abuse and Neglect, University of California, Irvine, CA

# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

---

- Cachexia/malnutrition
- Dehydration
- Pressure sores/decubitus ulcers
- Poor body hygiene, unchanged diaper
- **Dirty, severely worn clothing**
- Elongated toenails
- Poor oral hygiene

# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

## NEGLECT

- Cachexia/malnutrition
- Dehydration
- Pressure sores/decubitus ulcers
- Poor body hygiene, unchanged diaper
- Dirty, severely worn clothing
- **Elongated toenails**
- Poor oral hygiene



Elongated toenails in neglect victim.  
Photo courtesy of: D.C. Homeier

# POTENTIALLY SUSPICIOUS PHYSICAL SIGNS

## NEGLECT

- Cachexia/malnutrition
- Dehydration
- Pressure sores/decubitus ulcers
- Poor body hygiene, unchanged diaper
- Dirty, severely worn clothing
- Elongated toenails
- **Poor oral hygiene**



Poor dentition in a substantiated case of dependent adult neglect.  
Photo courtesy of: L. Gibbs, MD, Orange, CA

# NOVEL INTERVENTION

---

Designing the first-of-its-kind, ED-based, multidisciplinary team



## Weill Cornell Medicine Vulnerable Elder Protection Team

*Consultation service available 24/7 to assess, treat, and ensure the safety of elder abuse/neglect victims, while also collecting evidence, when appropriate, and working closely with the authorities.*

*Increase identification and reporting and decrease burden on ED providers*

*similar to existing child protection teams*

# ACKNOWLEDGEMENTS

- U.S. Department of Justice
- Dr. Sid Stahl
- Dr. Shelly Jackson
- Ms. Lori McGee
- Ms. Arlene Markarian
- Dr. Mark Lachs
- Dr. Karl Pillemer
- Dr. Terry Fulmer
- Ms. Risa Breckman
- Ms. Marie-Therese Connolly
- Ms. Page Ulrey
- Mr. Fred Green
- Dr. Stephen Hargarten
- Dr. Laura Mosqueda
- Dr. Sunday Clark
- Dr. Veronica LoFaso
- Ms. Elizabeth Bloemen
- Dr. Jo Anne Sirey
- Dr. Jackie Berman
- Brooklyn, Westchester DA's Offices
- John A. Hartford Foundation
- Fan Fox and Leslie R. Samuels Foundation
- National Institute on Aging
- American Geriatrics Society
- Emergency Medicine Foundation
- Society of Academic Emergency Medicine
- New York City Elder Abuse Center
- Weill Cornell Division of Emergency Medicine
- Weill Cornell Division of Geriatrics and Palliative Medicine

Thank you! Any questions?



---

# Questions & Helpful Links

Suggestions can be emailed to  
**[elder.justice@usdoj.gov](mailto:elder.justice@usdoj.gov)**

