

Forensic Insights: How Trauma Nurses Contribute to Crime Scene Analysis

Agrillo Alessandro*

Forensic Psychiatric Hospital Pompestichting, Radboud University, Netherlands

Abstract

The role of trauma nurses extends beyond patient care, intersecting significantly with forensic science. Trauma nurses are often the first healthcare professionals to encounter victims of violent crimes, providing critical medical interventions while also preserving and documenting forensic evidence. This article explores the multifaceted contributions of trauma nurses to crime scene analysis, emphasizing their unique position in the forensic landscape. By examining their training, responsibilities, and collaboration with law enforcement, this study underscores the essential role trauma nurses play in the criminal justice system.

Keywords: Forensic nursing; Trauma nurses; Crime scene analysis; Evidence preservation; Forensic evidence collection; Emergency medicine; Sexual assault nurse examiner (SANE); Forensic training

Introduction

In the complex and multifaceted realm of forensic science, the role of healthcare professionals, particularly trauma nurses, is often underappreciated yet profoundly significant. Trauma nurses, as frontline responders in emergency medical settings, frequently encounter victims of violent crimes [1]. Their unique position not only involves providing immediate and life-saving care but also extends to the meticulous documentation and preservation of forensic evidence critical to crime scene analysis.

The intersection of trauma nursing and forensic science is a dynamic field that requires a specialized set of skills and knowledge. Trauma nurses are trained to stabilize patients under intense pressure, yet they must simultaneously be vigilant custodians of potential evidence [2]. This dual responsibility necessitates a thorough understanding of forensic principles, legal requirements, and ethical considerations.

Evidence collected and documented by trauma nurses can serve as a cornerstone in criminal investigations. From noting the characteristics of wounds and injuries to preserving trace evidence embedded in clothing and personal effects, the contributions of trauma nurses are pivotal [3]. Their observations and records can provide invaluable insights into the events leading up to an injury, the nature of the assault, and the identity of the perpetrator.

Moreover, trauma nurses often serve as liaisons between the medical and legal fields. Their ability to communicate effectively with forensic teams and law enforcement agencies ensures that evidence is preserved, handled, and transferred appropriately, maintaining the integrity of the chain of custody. This collaborative effort is crucial in preventing the contamination or loss of evidence, which could otherwise compromise the investigation and subsequent legal proceedings [4,5].

This article delves into the critical role of trauma nurses in crime scene analysis, exploring their specialized training, the processes they follow to collect and preserve evidence, and their collaboration with forensic and law enforcement professionals. By highlighting case studies and practical applications, we aim to illustrate the profound impact trauma nurses have on forensic investigations and, ultimately, the pursuit of justice [6]. Through this exploration, we seek to underscore the importance of integrating forensic training into trauma nursing and fostering interdisciplinary collaboration to enhance the

efficacy of criminal investigations.

The Role of Trauma Nurses in Forensic Evidence Collection

Initial assessment and evidence preservation: When victims of violent crimes are admitted to trauma centers, trauma nurses perform rapid and thorough assessments to stabilize the patient. During this initial phase, nurses must be acutely aware of potential forensic evidence. This includes:

Clothing and personal effects: Trauma nurses carefully handle and document the victim's clothing and personal belongings, as these items may contain vital evidence such as blood, hair, fibers, or gunpowder residue [7].

Wounds and injuries: Detailed documentation of the type, location, and nature of wounds is crucial. This information can help forensic analysts reconstruct the events leading to the injury and identify the weapon used.

Chain of Custody

Maintaining the integrity of forensic evidence is paramount. Trauma nurses are trained to establish and adhere to the chain of custody protocols, ensuring that all collected evidence is accurately labeled, securely stored, and appropriately transferred to forensic laboratories or law enforcement agencies. This process is critical in preventing evidence contamination or loss, which could compromise the investigation.

Documentation and Communication

Trauma nurses meticulously document all patient interactions and observations. This documentation serves a dual purpose: providing comprehensive medical records and creating a detailed forensic log.

***Corresponding author:** Agrillo Alessandro, Forensic Psychiatric Hospital Pompestichting, Radboud University, Netherlands, E-mail: alessandro@tiscali.it

Received: 02-Apr-2024, Manuscript No: gnfs-24-140498; **Editor assigned:** 05-Apr-2024, Pre QC No. gnfs-24-140498 (PQ); **Reviewed:** 19-Apr-2024, QC No. gnfs-24-140498; **Revised:** 23-Apr-2024, Manuscript No. gnfs-24-140498 (R); **Published:** 29-Apr-2024, DOI: 10.4172/2572-0899.1000273

Citation: Agrillo A (2024) Forensic Insights: How Trauma Nurses Contribute to Crime Scene Analysis. Glob J Nurs Forensic Stud, 8: 273.

Copyright: © 2024 Agrillo A. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Effective communication between trauma nurses, forensic teams, and law enforcement is essential for a seamless transition of information and evidence from the medical to the investigative phase [8].

Specialized Training for Forensic Nursing

Forensic nursing education: To equip trauma nurses with the necessary forensic skills, specialized training programs have been developed. These programs cover various aspects of forensic science, including:

Evidence collection techniques: Training on how to properly collect and preserve different types of forensic evidence.

Legal and ethical considerations: Understanding the legal implications of forensic evidence handling and the ethical responsibilities of healthcare professionals [9].

Collaboration with law enforcement: Developing skills to effectively work alongside law enforcement and forensic experts.

Certification and continuing education: Certifications such as the Sexual Assault Nurse Examiner (SANE) credential provide trauma nurses with advanced knowledge and skills specific to forensic examinations. Continuing education is also crucial, as it keeps nurses updated on the latest forensic techniques and legal requirements.

Case Studies and Practical Applications

Sexual assault cases: In sexual assault cases, trauma nurses trained as SANEs play a critical role. They conduct forensic examinations, collect evidence such as swabs for DNA analysis, and provide compassionate care to victims. Their detailed reports and expert testimony can be pivotal in legal proceedings.

Gunshot and stabbing incidents: For victims of gunshot or stabbing injuries, trauma nurses document wound characteristics and patterns that can help forensic analysts determine the type of weapon used and the circumstances of the attack. They also collect trace evidence from the wound site, which might include bullet fragments or fabric fibers [10].

Child abuse and domestic violence: Trauma nurses are often the first to identify signs of child abuse or domestic violence. Their ability to recognize subtle indicators of abuse, document injuries, and collaborate with social services and law enforcement can lead to early intervention and protection for vulnerable individuals.

Collaboration with Forensic and Law Enforcement Agencies

Multidisciplinary approach: A multidisciplinary approach is essential for effective forensic investigations. Trauma nurses collaborate with forensic pathologists, crime scene investigators, and law enforcement officers to ensure that all aspects of the case are thoroughly examined. Regular interdisciplinary meetings and case reviews foster a collaborative environment where information is shared, and strategies are developed [11].

Expert testimony: Trauma nurses often serve as expert witnesses in court, providing testimony based on their medical and forensic expertise. Their insights can help juries and judges understand the medical aspects of injuries and the forensic evidence, contributing to informed legal decisions.

Conclusion

Trauma nurses play a vital, yet often underrecognized, role in the realm of forensic science and crime scene analysis. Their unique

position as first responders to victims of violent crimes places them at the intersection of healthcare and criminal justice, where their actions and observations can significantly influence the outcomes of forensic investigations.

The contributions of trauma nurses to crime scene analysis are multifaceted. Their expertise in immediate medical care, combined with their forensic training, allows them to meticulously document injuries, preserve crucial evidence, and maintain the integrity of the chain of custody. These efforts ensure that forensic evidence is collected and handled properly, which is essential for the accuracy and reliability of subsequent analyses and legal proceedings.

Specialized training programs and certifications, such as those for Sexual Assault Nurse Examiners (SANE), equip trauma nurses with the skills needed to perform forensic examinations and provide expert testimony in court. Their ability to recognize, document, and communicate forensic details makes them indispensable collaborators with forensic scientists, law enforcement officers, and legal professionals.

Through case studies and practical applications, this article has highlighted how trauma nurses contribute to various aspects of forensic investigations, from handling evidence in cases of sexual assault to documenting wounds in incidents involving firearms or sharp objects. Their role in identifying signs of child abuse and domestic violence further underscores their importance in protecting vulnerable populations and facilitating early intervention.

In conclusion, the integration of forensic training into trauma nursing is crucial for enhancing the effectiveness of crime scene analysis and the criminal justice system as a whole. By acknowledging and expanding the forensic contributions of trauma nurses, we can improve patient care, strengthen forensic investigations, and support the pursuit of justice. Their dual commitment to medical and forensic excellence embodies a critical nexus where healthcare meets law enforcement, ensuring that the voices of victims are heard and that perpetrators are held accountable.

References

1. Bonne S, Tufariello A, Coles Z, Hohl B, Ostermann M, et al. (2020) Identifying participants for inclusion in hospital-based violence intervention: An analysis of 18 years of urban firearm recidivism. *J Trauma Acute Care Surg* 89: 68-73.
2. Nygaard RM, Marek AP, Daly SR, Van Camp JM (2018) Violent trauma recidivism: Does all violence escalate?. *Eur J Trauma Emerg Surg* 44: 851-858.
3. Bernardin ME, Spector sky K, Gu H, Fairfax C, Cutler K (2023) Child Firearm Injury Circumstances and Associations With Violence Intervention Program Enrollment. *J Surg Res* 285: 67-75.
4. Fahimi J, Larimer E, Hamud-Ahmed W, Anderson E, Schnorr CD, et al. (2016) Long-term mortality of patients surviving firearm violence. *Inj Prev* 22: 129-34.
5. Branas CC, Han S, Wiebe DJ (2016) Alcohol Use and Firearm Violence. *Epidemiol Rev* 38: 32-45.
6. Kayton ML, Staab V, Stahl B, Tan K, Russo L, et al. (2023) Health Inequities in Pediatric Trauma. *Children (Basel)* 10: 343.
7. Usdin S, Scheepers E, Goldstein S, Japhet G (2005) "Achieving Social Change on Gender-Based Violence: A Report on the Impact Evaluation of Soul City's Fourth Series." *Social Science and Medicine* 61: 2434-45.
8. Webster DW, Whitehill JM, Vernick JS, Curriero FC (2012) "Effects of Baltimore's Safe Streets Program on Gun Violence: A Replication of Chicago's CeaseFire Program". *Bulletin of the New York Academy of Medicine* 90: 27-40.
9. Stoltenborgh MA, Bakermans-Kranenburg MJ, Ijzendoorn MH van, Alink LR (2013) "Cultural-Geographical Differences in the Occurrence of Child Physical Abuse? A Meta-Analysis of Global Prevalence". *International Journal of Psychology* 48: 81-94.

10. Tharp AT, Degue S, Valle LA, Brookmeyer KA, Massetti GM, et al. (2012) A Systematic Qualitative Review of Risk and Protective Factors for Sexual Violence Perpetration. *Trauma Violence and Abuse* 14: 133-67.
11. Thornberry TP, Knight KE, Lovegrove PJ (2012) Does Maltreatment Beget Maltreatment? A Systematic Review of the Intergenerational Literature. *Trauma Violence and Abuse* 13: 135-52.