First responders confronted by forensic cases are forced to consider the competing concerns of administering proper medical treatment while at the same time safeguarding vital evidence. Forensic Science in Healthcare: Caring for Patients, Preserving the Evidence presents precise on-scene protocol designed to ensure that the actions of the response team provide the necessary care and yet maintain the integrity of the evidence for legal purposes.

Following an introduction to forensics, the book explains how to recognize and identify patients with forensic issues, offers guidelines on proper documentation, and provides tips on forensic photography and capturing critical images. It reviews basic principles of evidence collection before moving into specific case scenarios, including domestic violence, sexual assault, child and elder abuse, youth violence, and death investigation. The book also examines occupational concerns for forensic personnel as well as legal issues such as testifying in depositions and in court.

Enhanced with photographs, illustrations, templates for documentation, and case-specific recommendations, this one-stop reference provides first responders with practical understanding of the steps that should be followed to ensure not only patient protection but evidence preservation.

Forensic Science in Healthcare: Caring for Patients, Preserving the Evidence

Connie Darnell

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Taylor & Francis Group
Forensic Science in Healthcare
Caring for Patients, Preserving the Evidence
Forensic Science in Healthcare
Caring for Patients, Preserving the Evidence

Connie Darnell
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Preface

This book is written for personnel at all levels within the healthcare spectrum, and provides the basic knowledge and skills for ensuring that a forensic patient’s legal rights are protected within the healthcare setting. I have distilled the important concepts and principles applicable to clinical forensic practice, and present them in direct, easy-to-understand language. Following a brief introduction, the text describes how to identify patients with forensic issues, and guides the reader through the practical aspects of evidence preservation, documentation, and legal reporting procedures.
Acknowledgments

My interest in forensics began when I was in college. While taking care of an 18-month-old who had been severely burned by her mother, I was appalled to learn that the child would be returned to her mother “in consideration of the mother’s mental health.” Finding there were few laws to protect children, I vowed to advocate for the rights of the vulnerable and abused. After more than 10 years, it would be impossible to acknowledge all those who have helped make this book a reality. There are several people, however, who stand out. First, that young child who motivated me to begin this journey—it is really for her, and all others like her, that this book was written.

I would like to thank Janet Barber for her support, guidance, and friendship and for making this book become a reality, and her husband, Don Duval, for his quiet support from the background. I thank Dr. Patrick Besant-Matthews for his willingness to share his expertise, enthusiasm, uncommon knowledge, photographs, and friendship over the years and for teaching me much of what I know. I also thank Dr. William Smock for permission to use some of his photographs, and for his never-ending support of those who follow in his footsteps. I also thank Robert Witter for his input and guidance on electrical burns and hazards.

I especially thank Zech Robinson who has unselfishly given his time and expertise with computers and who kept me sane when I became overwhelmed by electronic demons, Jackie Kerwin and the Silverton Public Library, and George Romero, who completely redid our electrical system when ice avalanching off the roof wiped it out at a critical point in preparing this manuscript. I also acknowledge Bruce Elliot, who has always been my knight in shining armor, and last but certainly not least, my husband for his kindness and support all of my adult life. To them and to all those who listened, critiqued, consulted, and in general supported me in this endeavor, I will forever be indebted.
Connie Darnell is a charter member of the International Association of Forensic Nurses and has been involved in forensics since the early 1990s. She has worked as a deputy field death investigator for the New Mexico Office of the Medical Investigator and is a trained sexual assault nurse examiner. She has taught introductory undergraduate and continuing education forensic nursing classes at the University of New Mexico and has given numerous presentations to healthcare groups, local law enforcement, and volunteer fire departments.

She lives with her husband at their homes in rural New Mexico and Alaska, where she is a member of the local volunteer fire and rescue departments. She is currently employed part time in Santa Fe, New Mexico.
Introduction to Forensics

I thought forensics was for law enforcement and death investigators. What does it have to do with me?

Increased popularity of forensic* programs has led to increased interest in the forensic sciences. Many believe forensics to be limited to matters involving death.† This is simply not true. In fact, most forensic cases involve people who are alive, thus leading to the term living forensics.

Clinical forensics is the application of forensic science to medical situations. A patient exhibiting symptoms of carbon monoxide poisoning is an example. Is there a product liability issue? Is this an accident, negligence, or an intentional attempt to harm or kill? Another example might be a pregnant woman who is exposed to radiation. Both of these examples require a detailed investigation into the circumstances surrounding the incident as well as determination of the health consequences to the individual.

Motor vehicle accidents, sexual assault, and other interpersonal violence are commonplace. Substance abuse is widespread and crosses all socioeconomic boundaries. Terrorism and mass casualty incidents are a part of our daily topics of concern. All of these have forensic issues and implications for healthcare providers.

Violence and traumatic incidents in America pose a mental health, public health, and public safety dilemma. Once limited to assessing and caring for a patient’s physical or psychological needs, healthcare’s responsibility now encompasses the identification and treatment of those impacted by crime, violence, and other intentional or unintentional trauma. The inclusion of criminal and civil liability into healthcare has made forensic knowledge and practice a legal imperative. In the past, healthcare’s failure to recognize victims of crime and violence was a significant factor in reduced reporting to authorities. Our justice system now requires healthcare providers to think and act with full regard for their ethical and legal responsibilities to the patient.

* The word forensic comes from the Latin forensic, meaning “of a market or forum: public.” The term evolved into its current usage, of “belonging to courts of judicature or to public discussion and debate.” Thus, forensic medicine (also known as medical jurisprudence) is a science dealing with the relationship and application of medical facts to legal problems.

† As contrasted with forensic pathology, living forensics is the application of forensic science to surviving victims.
and to the justice system. It is the healthcare provider’s observations, coupled with an intuitive sense of the intangible, which may bring forensic issues to light. From initial assessment to discharge planning, forensic issues must be considered and, if applicable, included in the delivery of patient care.

Collaborating with others along the continuum of care is a routine occurrence for providers of healthcare. Primary providers are uniquely positioned to function as a liaison between the medical community and law enforcement, the judicial system, insurance companies, social service organizations, community agencies, lawmakers, bureaucrats, and others. The creation of multidisciplinary teams has proven to be the most effective way to manage the effects of trauma and violence. Not only does a team approach provide for a better patient outcome, it helps ensure the safety of the healthcare provider. The very nature of the healthcare profession lends itself to follow through into the legal arena. Future victims benefit from the variety of viewpoints presented. Resources are maximized, expenses are minimized, and efficiency in the delivery of services is increased.

To maintain credibility as professionals, it is essential that professional providers of care redefine their role as patient advocate. Providers at all levels must learn how to advocate for patients medically, psychologically, and forensically by being unbiased seekers of the truth. It is imperative that the healthcare provider not make value judgments or take sides. Rather, we must be impartial observers and recorders of the facts.

**Red Flags**

In addition to the obvious (motor vehicle accident [MVA], gunshot wound, etc.) there are several “red flags” that may indicate that a patient has forensic issues or is the victim of interpersonal violence. Among these are:

- Unexplained or unwitnessed traumatic injuries or illness—the patient and/or accompanying individuals have no explanation at all or say no one saw what happened
- Unusual or avoidable delay in seeking medical care
- Multiple injuries—different kinds of injury or multiple sites are involved
- Multiple injuries indicating more than one incident—wounds of differing ages or stages of healing, or multiple presentations for healthcare for the same or similar injuries or illnesses
- Patterned injuries—injuries suggesting a weapon or instrument was used
• Injuries that are inconsistent with the account given or that are unlikely to have been caused as the scenario has been told—they simply do not “fit,” or the patient and accompanying individuals give differing accounts of what happened
• Any time there is suspicion that the injury was not accidentally caused—a gut feeling that something just isn’t right

The Evolution of Crime, Violence, and Crime Detection

In medieval England, the sheriff was charged with protecting the interests of the king. He was concerned with crimes committed against secular or religious authority and not necessarily crimes perpetrated against common people. Today the sheriff’s job is to encourage people to obey the law, apprehend those who do not, and investigate the circumstances.

The office of the coroner was formalized in England in the twelfth century. As clinical forensic medicine matured, the concept of the police surgeon came into being. In 1842, the London city police department extended the role of law enforcement to include crime scene investigation. The creation of detective investigators was a significant improvement because it gave detectives the power to interview witnesses, collect and preserve evidence, and work collaboratively with other law enforcement professionals and the court system.

Living Forensics

Dr. Henry McNamara, a New York medical examiner, believed that, in addition to medical needs, survivors of catastrophic events have legal issues. He also believed that healthcare had an important and undeveloped role to play. He introduced the concept of living forensics. Within a few short years, the first clinical forensic medicine training program was begun in Louisville, Kentucky. The International Association of Forensic Nursing (IAFN) was founded in 1992 and shortly thereafter formally recognized by the American Academy of Forensic Sciences (AAFS) and the American Nurses’ Association (ANA). Standards of forensic nursing practice were soon adopted and published (McNamara, 1986).

In 1994, the Violence against Women Act (VAWA) was passed by Congress. Several hundred sexual assault nurse examiner (SANE) programs are now in place in the United States and numerous programs have been started in other countries. Employment for nurses as death investigators, clinical forensic nurse specialists, forensic correctional/psychiatric nurses, and legal nurse consultants is now a reality. Thousands of former nurses are
now practicing law as nurse attorneys. Pediatric and geriatric nurses, emergency medical technicians (EMTs), and first responders now possess basic forensic skills.

The Scope of Crime and Violence in Modern Society*

The Crime Index (FBI, 2002) estimated that there were 1.6 million violent crimes reported to law enforcement in 2001 (USDOJ, FBI, OJP, OVC, BJS, NCVS, cited in NVAA, 2002). According to the FBI, one violent crime occurred in the United States every 19 seconds, one forcible rape occurred every 5 minutes, and one murder occurred every 29 minutes.

Tragically, less than half of violent crimes and only about one-third of all crimes are ever reported to the police. Healthcare’s failure to recognize victims and the impact on individual lives has been a factor in reduced incidence of reporting to authorities. Our failure to understand this has led to tragic and lifelong consequences for victims and their friends and families.

A disaster is defined as an event or situation causing ruin or failure (Compact Oxford English Dictionary, 2005). Using this definition, the current level of violence in America is clearly a public health and safety disaster. This tragedy is a preventable circumstance that not only affects individual victims, friends, and families, but also touches communities and the country as a whole. The events of September 11, 2001, are a dramatic testament to the short- and long-term impact such events can make.

In 1998, there were 8.1 million crimes of violence in the United States, only 46% of which were ever reported to law enforcement. In 1994, 1.4 million people were treated in emergency departments for suspected or confirmed interpersonal violence (BJS, August, 1997), 1.6 million violent crimes were reported to law enforcement (FBI, 1998) and an estimated 3.7 million adult women were victims of some type of sexual or aggravated assault during a one-year period (Tjaden and Thoennes, The National Women’s Study: Research in brief, 1992).†

In our fast-paced lives, people succumb to increasing pressures of time and money. Substance abuse is widespread and has a multitude of significant consequences. These consequences are not limited to the health implications for the user or addict. Families and the stranger with whom the substance abuser comes in contact are also affected. Drugs and alcohol are implicated in motor vehicle accidents, interpersonal violence, sexual assault, homicide,

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* Begun in 1995, the National Victim Assistance Academy is a week-long, university-based training course on victimology, victims’ rights and victim services. (NVAA, 2002).
† All of the above statistics are reported in the 2002 NVAA Manual.
suicide, and other injurious behaviors. Fetal alcohol syndrome and the crack-addicted newborns are just two of the many adverse consequences visited upon the innocent.

Violence influences how people view the world. Trust is the glue that binds human relationships. Violence makes individuals wary of unfamiliar people. The result is an erosion of one's sense of personal safety, leading to skepticism, cynicism, and self-imposed isolation. The overall quality of life is decreased because human interaction is stifled.

Since the terrorist acts of 9/11, violence—or, more importantly, the fear of violence—has changed the way Americans think and live. People no longer feel safe at night, even in their own neighborhoods—indeed, in their own homes. Many have installed some type of home security system or purchased a weapon for self-protection. People no longer feel safe when traveling. Fear of violent encounters restricts individuals’ inclination to go where they wish, when they wish, how they wish. The once hated inconveniences of heightened security are now accepted. Our view of humanity has undergone a significant change.

The Financial Cost of Violence

**Key Point:**

Forensic cases have financial and emotional costs as well as medical ones.

In 1996, the National Institute of Justice released a comprehensive report on the cost of violent crime (NVAA Manual, 1999; US Department of Justice [USDOJ], FBI, OJP, OVC). Data was gathered from criminal justice agencies, medical professionals, crime victim compensation programs, and crime victims themselves. The financial impact of violence amounts to well over $400 billion each year (National Institute of Justice [NIJ] 1997–1998 Academy Text Supplement Ch. 1 p. 3). As much as 20% of mental health expenditures in this country can be attributed to treatment of victims alone* (National Institute of Justice [NIJ] Cost of Victimization, February 1996). The U.S. government pays nearly $20 billion in health insurance payments and for services to victims. Crime costs private insurers approximately $45 billion annually (NIJ, 1996).

* This estimate does not include figures for mental health treatment of offenders.
The Emotional Cost of Violence

Key Point:
Psychological injuries impact more than just the victim: friends, family, coworkers, and others can also be significantly affected.

Victims may have psychological wounds equal to or greater than the physical ones. The professional provider must be sensitive to those emotional needs. Understanding a victim’s reaction to crisis enables the healthcare provider to provide appropriate psychological care. It is important to remember that, to those impacted by trauma and violence, this is not just a case, it is a tragedy and their lives will never be the same. Even though every crime is not necessarily violent, a sense of violation remains. Survivors—whether they are direct victims or those affected by extension—may exhibit signs of posttraumatic stress disorder (PTSD), not only at the traumatic moment, but days, weeks, or months after the events have occurred.

The Role of Healthcare

Survivors of catastrophic events encompass a wide variety of scenarios, including interpersonal violence, sexual assault, unnatural death, legal and custodial disputes, legislation, malpractice, workplace injury, drug and alcohol dependence, terrorist incidents, and others. Living forensics has implications for healthcare workers in many settings, including hospitals, clinics, insurance companies, government agencies, law enforcement offices, attorneys’ offices, judicial settings, industrial settings, legislative offices, and literally on the street.

Violence, trauma, and other liability-related situations are pervasive in modern culture. It is imperative that healthcare providers develop a “forensic antenna” as part of their basic repertoire. Are the injuries consistent with the explanation given? All healthcare providers must learn the basic elements of forensic content, including how to document forensically, how to collect and preserve evidence, reporting requirements, and how to defend or explain medical situations in court.

Key Point:
Personal security concerns related to both the patient and the healthcare staff must be addressed throughout all phases of the forensic case management.
Living forensic patients typically have experienced serious traumatic events, and need to be confident regarding their personal safety. Once a sense of personal security has been established, the patient, families, and friends need to be reassured that they are not being judged. Central to managing the short- and long-term effects of traumatic events is to ease feelings of guilt for the situation they find themselves in. When patients feel someone is listening to them in a nonjudgmental way, fear and anxiety are reduced. Patients begin to believe their needs will be satisfied. Explaining roles, procedures, and treatments provides reassurance and engenders trust. Rather than probative questioning, it is better to allow the patient to relate their experience in their own terms.

The presence of family and friends is important to victims, and those needs must also be considered. Whether the patient is victim, perpetrator, or family, the healthcare provider must be courteous and respectful. These individuals need support, but boundaries must be set on behavior. Disruptive behavior can be minimized by a calm, professional, caring, and patient-centered approach. Out-of-control individuals may have to be restrained or removed from a particular clinical setting. This is not the responsibility of the healthcare provider, but rather the responsibility of security or law enforcement.

Today’s professional healthcare provider understands basic anatomy and physiology and can help identify a mechanism of injury or cause of death. Nurses’ expertise in normal growth and development, the disease processes, medical terminology, and recognition of mental, emotional, and physical disabilities, helps interpret aspects of medical care to the legal community. Assessing a patient’s condition and documenting the care given become second nature to the experienced healthcare provider.

Nurses and other healthcare professionals also possess communication skills that enable them to help individuals through a crisis, and to care for patients in uncontrolled and unpredictable environments. They use their knowledge of human psychology on a daily basis and are skillful at interacting with grieving individuals and noncompliant patients.

**Key Point:**
Nurses function in an ever-expanding variety of roles. Collaboration with other healthcare providers and agencies is important in the continuum of care.

The frontline practitioner is in a unique position to collect and preserve evidence. Frontline practitioners may be the ones who initiate the all-important *chain of custody*. An example occurred during a forensic nursing class I taught. The class was condensed into two sessions, one month apart. In the