Journal of the Academy of Forensic Nursing

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Journal of the Academy of Forensic Nursing

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Editorial

Forensic Nursing: Changing Our Future, Keeping Our Past

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Forensic Nursing: Changing Our Future, Keeping Our Past

In this issue we have some key articles related to the history of forensic nursing competencies and specialization, a comparison of sexual assault care then and now, as well as some excellent articles on factors affecting current forensic nursing care. Forensic nursing has only fairly recently been identified as an area of specialization in North America and a few other countries. Nurses in some countries are still struggling to be recognized for the strengths and skills we bring to care of those involved in trauma and violence.

One of the key changes we have seen is the development of technology to support education and training. In nursing education, we finally stopped using the old "Trainex videos" on 16-mm projectors, and overhead acetates. These were gradually replaced with increasingly more advanced technology starting with PowerPoint presentations, interactive web-based education, virtual webinars, as well as telehealth to support practice, continuing education, and experiential learning/simulation. More recently, we have begun to find applications for simulation using a range of modalities. One early use of technology was virtual tours of a sexual assault centre to walk new forensic nurses through care of sexual assault patients (Ferguson & Faugno, 2009). Later examples include simulations for education on human trafficking (Ellis et al., 2025), child abuse (Han et al., 2025), and the role of the nurse in death investigation (Cannon, 2024). This issue includes an article by Janson, Gary, and Mitchell on the creation of a virtual community of practice. Simulations are increasingly being used and are becoming more complex with advances in technology such as integration of artificial intelligence, virtual reality, and augmented reality. Some even include pre-programmed clinical situations, and the ability to verbally interact with the simulated or virtual "patient" in a way that is unique to the participant.

In our clinical practice we similarly see increasingly sophisticated technology. We have moved from identification of basic injuries to classification of injuries by type of forces and

standardization of injury nomenclature (Carter-Snell, 2011) to more sophisticated methods of injury identification with alternate light sources for bruises and to examine bruising over time (Scafide et al., 2013; Scafide et al., 2020), and progressively improved techniques to better identify injuries in people with darker skin colors (Sommers et al., 2019). The previous use of traumagrams and SLR film cameras progressed to digital cameras, and the integration of colposcopy with cameras and photodocumentation.

Even documentation has shifted to technology. We have moved from the paper-based chart of the 1990s when forensic nursing emerged, to computer-based documentation. This has raised the level and volume of documentation, but has also enabled improved auditing and data collection across large samples of patients. The computer data can be further augmented with tools such as artificial intelligence. For instance, colleagues in Boston are developing an AI tool using probabilities, clinical data, and radiology results to predict risk for intimate partner violence. The vast data collected electronically has enabled an enhanced patient issues, risks, and outcomes, as well as supported research and evidence-based practice.

Our capacity to expand our evidence-informed practice has also been facilitated by technology. We no longer have tables covered in index cards or need to sift through rows and rows of index card files to find library books. Instead, we have massive searchable databases, reference management software to retain thousands of articles we have found, and programs that can help us analyze large datasets such as SPSS, R, and NVivo. Open-source publishing has made research findings more easily available to clinicians, shortening the delay of implementation into practice, and has enabled higher level analyses such as systematic reviews.

These are only a few of the technological advances we have seen in forensic nursing since the 1990s. What has not changed throughout the years is the patient—they are still scared, vulnerable, and can greatly benefit from interactions with nurses to promote healing and prevent complications or long-term consequences. A young nursing student recently said to me she was so excited because the hospital was going to let the nurses take on a technological skill previously only done by the residents. My question to her was "what about that makes it 'nursing care' rather than something that gives you less time to spend with your patient?" Nursing is a relational profession; interactions with patients and their families is the core of our practice, not the type of swab, nor the technology we use. It is not the technology of the swab or light, nor the computer application we use that makes a difference to them. It is the fact that we provide empathy and knowledgeable care. As Maya Angelou once said, "Patients may not remember all you said, but they will remember how you made them feel." Forensic nursing is about comprehensive, trauma-informed nursing care for those involved with trauma or violence, with an understanding of forensic implications and how these impact the patient's care and recovery.

Victims of violence such as sexual assault or intimate partner violence have rates of healthcare utilization up to five to seven times higher than those without assault histories (Fleury et al., 2014; Vogt et al., 2022; Wells et al., 2012). While technology may improve the way we perform skills or documentation, it is our interactions and the way we care for them that may make a critical difference to their recovery and resilience. It has been demonstrated that early comprehensive and sensitive care soon after sexual assault has significantly reduced rates of posttraumatic stress disorder (Dworkin & Schumacher, 2018). Similarly, positive reactions to disclosure of trauma also reduces the risks of psychopathology (Dworkin et al., 2019; Ullman, 2025).

Someone once said to me that it was too bad I didn't "go all the way to become a real doctor, rather than just a PhD." I tried to tell her that medicine and nursing were two different careers. One of my favourite graduate school professors, Dr. Phyllis Giovannetti, used the analogy that it was like the difference between "doctoring a drink or nursing a drink." One drops something in and leaves, and the other stays and looks after it. I am honoured to stay with my patients and find as much time so I can to help them find their strength and potentially resilience to the trauma. While technology can help provide me more of that time, or provide a mode for us to better prepare new nurses, it should not be the main focus. It is tempting to research the fancy new equipment, but we need more research to support the importance of our core nursing care. For example, let's look at the impact of trauma-informed nursing care on patients' resilience and health outcomes, or the most effective strategies to support them to promote posttraumatic growth. I hope that as forensic nursing moves further into the future, that we remember to keep our past—ensuring the patient and our relationships with them are at the core of what we do.

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Journal of the Academy of Forensic Nursing

Practice Perspectives

Early Memories of an Emerging Specialty: The Forensic Nurse

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Received: March 2024 Accepted: December 2024

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Abstract

Rare is the opportunity to witness the birth of a nursing specialty. The article is only one person's memory (confirmed by persons acknowledged) and the challenge is for all who were part of the growth before or during the birth of forensic nursing to contribute their memories too.

Keywords: forensic nurse, personal reflection, competencies, standards, certification

Early Memories of an Emerging Specialty: The Forensic Nurse

In world history, there are few original thinkers—Aristotle, Galileo, and Einstein enter my mind. However, some pivotal thinkers cause some to pause, ponder…, and change. Virginia Lynch is one such thinker. In 1992, Minneapolis, MN, U.S. at the invitation of Dr. Linda Ledray, Virginia spoke about nursing as an extension of the forensic medical examiner role in England; hence, the Forensic Nurse. Listening to her talk, I thought about her proposed concept and theoretical practice framework. As a board-certified family nurse practitioner working with vulnerable urban and rural populations in an impoverished area in Memphis, TN, US, I became the first adopter of Lynch's proposal—conceptualizing a role called Forensic Nurse. This is why: The conceptual role Lynch described fits my nursing practice. As I drew an umbrella on the board, Beth Ariss (deceased) from Winnipeg, Manitoba, Canada, argued that the Lynch theoretical framework for practice made sense to her too, and she became the second adopter as others joined. This group formed the first organization for forensic nurses in the US and Canada! Before you think it was that simple, think about this: There are remaining differences of opinion, where some backed only sexual assault care and the title "nurse clinician", others proposed to

adopt the full scope of practice described by Lynch, and some in between. Just for the record, the first schism in the forensic nursing organization occurred in 1992 at the formative Minneapolis meeting, where lifelong colleagues and friendships or frenemies were formed.

As a group of readers with life experiences, it is important to go back to little-known or remembered history to help inform the younger readers about the evolution in social thinking that explains changes with a historical backdrop, one decade to the next. The Civil Rights movements in the U.S. and Europe throughout the mid- and late-19th and entire 20th centuries paved the way for the women's movements on newsreels in the 1920s and '60s. The evolution in thinking promoted by suffragettes in the 1920s and civil rights protests in the '60s and '70s became the impetus for legislative enactments codifying the concepts of *liberty*.

Nursing is a discipline and a predominantly female vocation. The women's movement and continual legislative changes gave courage to the early nurse innovators, known as physician extenders in the U.S. The 1950s nurse role expansion in specialties (CNS, circa 1956) paved the way for other types of specialty nursing roles, now known as nurse practitioners (NP, circa 1964). In parallel sciences from the 1950s onward, victimology was an emerging area of study in criminology, leaving the dyad of the criminal and criminal justice system behind, and defining a new triad, inclusive of the victim. With fewer than 20 articles addressing violence against women between 1960–1970, physicians in the U.S. and Canada were eager to give up the *crime victim* in the emergency departments—notably, the domestic violence and rape victim without visible injury.

The 1960s and '70s were a turbulent time (war… sex, drugs, and 'rock n roll'!) for individuals, families, communities, and societies at large. Each generation establishes its mark on society. For nursing, building on the published evidence in 1973, Ann W. Burgess, a psychiatric nurse at Boston College in Massachusetts (today, living on as a *FAAN Living Legend*), partnered with Linda L. Holmstrom (deceased), a sociologist, to write *Rape Trauma Syndrome (RTS)*. Their analysis highlighted the constellation of post-rape symptoms amenable to psychiatric nursing intervention, and many women identified with the descriptions. The article was a sensation, first for the title chosen *(RTS)*, and second, a nurse wrote it! In a later conversation, Ann told me that, while surprised at the notoriety, she *picked the right title for the right journal*. In the 1960s and '70s, for those of us who remember the media coverage of the women's movement, once the trusted news anchor Walter Cronkite reported about Ann's article and women's equality in the evening news, conversations at my dinner table changed!

In the 1960s and '70s, nurses promoted awareness about domestic violence by using the Duluth Model and Coordinated Community Response partnerships to assist in understanding the Power & Control Wheel. Early nurses responded to domestic violence in the 1960s and '70s, forming organizations and advocacy partnerships. The early disciples, led by Dr. Jacqueline Campbell (another *FAAN Living Legend*), established the evidence for nursing interventions, e.g., Danger Assessment and other screening tools that followed. Campbell's legacy continues today. The challenge for the early nurses in DV practices who were there in the 1970s: write the early history about forensic nurses in the care of persons experiencing domestic violence!

Around the same time, another innovative nurse, Dr. Beverly H. Bowns (deceased), a champion for nurse practitioners (NP) at the University of Tennessee Health Science Center College of Nursing, wrote a Health and Human Services grant in 1972. The grant proposed exploring a new role using NP providers in Title X Family Planning clinics in Memphis—responding to reports of sexual violence. With NP training, the program was piloted November 1973. By February 1974, the Rape Crisis Center was opened as the first 24/7/365 response to sexual assault in the nation, exclusively served by NPs. In Minneapolis, Dr. Linda Ledray, a clinical psychologist who cared for sexual assault victims, opened a counseling program in 1975. Determined that counseling victims was insufficient to change the system of justice in response to rape, she became an RN, and in 1978 began combined services, offering nursing and counseling services to rape victims (personal conversation with Ledray years ago). Other programs predating Memphis used physicians and enlisted RNs to assist in emergency departments (Kansas City, MO); but only with direct care from physicians, e.g., speculum insertion (Florida, Missouri, and Texas to name a few). In 1979, Dr. Barbara Moynihan published the first analysis of a new nursing role in the emergency department (Connecticut). The challenges to the expanded role continued. Burgess and Ledray wrote letters of support in 1983 for my graduate thesis, *Anxiety in Rape Trauma* (1985). Only one faculty, Dr. Leon McAuley (a psych-MH RN), understood the association of rape to nursing care. In the late 1970s and 1980s, *before the term Forensic Nurse*, many of us were aware of other nursing programs serving victims of violent crime, and we were talking to each other. Validity for the nurse practitioner role in care of victims improved when the University of Tennessee Health Science Center College of Medicine Department of Continuing Education designed and awarded medical fellowship hours and/or continuing education credits to physicians and nurses alike from 1988–2005. Dr. David Muram was the visionary leader propelling initial collaborations between forensic nurses, physicians, and universities. Over the next three decades, physicians and nurses from all over the country took calls with Memphis' nurse practitioners who responded to victims and accused alike. No one believes how good it was! …all the while saving the chronicled history in media—film (HBO), television (Montel Williams, Larry King Live), and local news!

No change occurs without a message, a platform, and passionate, talented first-adopters. For the forensic nursing specialty, the message came from Virginia Lynch in a graduate thesis (Lynch, 1991). Dr. Linda Ledray, at the University of Minnesota, provided a platform in 1992 for her message. The first meeting was exhilarating, and the International Association of Forensic Nursing (IAFN) (circa 1992, 501c6, GA) was born. The first elected board included Dr. Margaret Aiken, Dr. Ann W. Burgess, Ledray, and Lynch. The organizer (Ledray) invited the speakers, arranged for lodging in student housing, and arranged for meals in the university cafeteria. The invited speakers at the August 1992 meeting introduced the concept of specialty organizations for multi-disciplinary teams in child abuse, e.g., American Professional Society on the Abuse of Children - APSAC (Dr. Sue Perdue), conceptualization of the forensic nurse theoretical framework and roles (Lynch), sexual assault scope and standards of practice (Speck & Dr. Margaret M. Aiken), and steps necessary to validate the forensic nursing role as a specialty among nursing organizations (Speck). The first adopters of the forensic nursing specialty role were 74 RNs and one physician each from the U.S., Canada, and Guam. All attendees were enthusiastic, talented people who provided across-the-lifespan healthcare following violence;

most responded to sexual violence, and other attendees responded to child maltreatment, domestic violence, and psych-MH in the offender populations! Still others were practicing as death investigators. The common thread was care of our patients who intersected with the legal system, either immediately following trauma or long after trauma occurred.

The first four IAFN Presidents, Virginia Lynch (1993-96), Patti Seneski (1997-98), Jamie Ferrell (1999-2000), and Kathy Bell (2001-02) saw the organizational foundation take a structure —a member organization where all are welcome and *expected to work*. Presented at the Minneapolis meeting in 1992, the Memphis application to the American Nurses Association (ANA) in 1990, requested recognition and validation for the role of sexual assault nurse clinicians working with rape victims. Rejected because Memphis was not an organization, the application became the template that guided the new IAFN organization's Board of Directors (BOD) application to the ANA from an organization! It worked, and in 1995, ANA designated the Forensic Nurse as a specialty in nursing, using the broad conceptualization of the framework proposed by Virginia Lynch in her thesis. The members, many practicing in the forensic nursing role since the 1970s, formed special interest groups (SIGs) in the new organization. SIG topics included graduate education, sexual assault, psychiatric mental health, death investigation, family violence, child abuse, and elder abuse, among others. In 1996, the sexual assault clinicians became Sexual Assault Nurse Examiners (SANE), approving and adopting the modified Memphis document for future SANE practice, becoming the first SANE Scope and Standards of Practice (IAFN, 1996). In 1997, the IAFN Board of Directors approved the first IAFN Forensic Nursing Scope and Standards of Practice (IAFN, 1997). It would be 12 years before the ANA approved the FN Scope and Standards of Practice (2009)!

During the 1990s, the IAFN member organization formed SIGs and committees to accomplish the strategic plan and create infrastructure for the organization. For the educators in academic institutions, establishing a forensic nursing educational foundation with scientific and practice evidence was important. However, science was lacking in the 1990s… but borrowed science was available from parallel disciplines of medicine, psychology, social sciences, forensic science, and others! Regardless, forensic nurse educators persevered, and the first academic institutions to offer graduate education in forensic nursing were Fitchburg State University in Fitchburg, MA, U.S. (circa 1994), led by Georgia A. Pasqualone (deceased) and Dr. Connie Hoyt (deceased). In Calgary, Canada, Dr. Arlene Kent-Wilkinson created the first online psychiatric forensic mental health course at Mount Royal College (now a university) for registered professionals. Dr. Cathy Carter-Snell became the first coordinator of the post-baccalaureate forensic certificate program there, completed the curriculum, and developed/taught North America's first online sexual assault nurse examiner (SANE) course in 1999.

The early barriers to academic organizations included a scarcity of evidence to support the variety of practice roles or align the variety of academic institutional pedagogy. Understanding the barrier, the Education Committee, under the Chair Dr. Daniel Sheridan, brought forth a policy to support graduate education in 1998.

Relying upon borrowed science, the forensic nursing academic educators identified core content necessary for their unique academic pedagogy. At annual meetings, many compared

academic content for validation, discussing current understanding, aligning with nursing philosophies, and pedagogical designs. Nonetheless, the topics of interest to forensic nurses were continuously under study by PhD researchers and had been for decades. Like today, these conversations among forensic nurse educators followed innovative developments in guiding nursing organizations. The first forensic nursing doctorate was at the University of Tennessee Health Science Center in Memphis, TN, led by Assistant Professor Susan B. Patton. Entering students in 2002, upon completion of a dissertation, the graduate received a Doctor of Nursing Science (DNSc). By 2005, the dissertation requirement was placed in abeyance, awarding Doctor of Nursing Practice (DNP) degrees for quality-improvement projects. It was evident to many of us in leadership and academia that the missing link for academic institutions was certification and a platform for scientific dissemination. IAFN President Kathy Bell (2001–02) appointed the first Forensic Nursing Certification Board (FNCB) in 2002, led by Drs. Linda Ledray and Debbie Hatmaker. FNCB formed as a separate entity, with the specific intent to offer certification in the sub-specialty role of SANE in adult/adolescent. Dr. Patricia M. Speck, IAFN President (2003–04) shepherded SANE certification through accepted pedagogical processes; it took three years before awarding the first SANE-A certification in 2005. Dr. Susan B. Patton followed and in 2004, led the development of the sexual assault nurse examiner for pediatric populations (SANE-P), first awarded in 2007. AACN, under the leadership of Patton, developed the parameters for the Advanced Forensic Nurse–Board Certified portfolio, first awarded in 2012, and retired by ANCC in 2017. The retirement of the AFN-BC became another catalyst for the professional and certification organizations.

Under Speck's presidency, the *Journal of Forensic Nursing* (2003) became the scholarship dissemination vehicle, appointing the first editor, Dr. Louanne Lawson from the University of Arkansas for Medical Sciences (UAMS) College of Nursing. Technical assistance grants written by IAFN BOD members and submitted to the funders in 2003–04 were awarded to IAFN in 2005. President Dr. Daniel Sheridan (2005–06) accepted the funding to support the expansion of SANE care, development of an elder abuse curriculum, and other technical assistance grants—funding ensured IAFN financial stability and growth of the role of SANE. Slowly, the gaps in forensic nursing's conceptual foundation justified expansion of the forensic nurse specialty in academic organizations, incorporating a variety of practice settings for the students (usually focused on the faculty specialty). During Susan Chasson's presidency (2007–08; 2018), the IAFN organization pivoted from supporting the generalist forensic nurse and focused efforts solely on the development of the SANE role and expansion of the SANE practice nationally. As a result, SANE roles proliferated, and the concept of a generalist forensic nurse languished for more than a decade. The American Nurses Credentialing Center's retirement of the AFN-BC became another catalyst in resurrecting FNCB, and generalist and advanced certification formation.

Notwithstanding the singular focus of IAFN after 2007, by the mid- to late-2000s, colleges and schools of nursing in the U.S. and Canada were implementing curricula for the forensic nurse with content to teach the next generation of generalist and advanced forensic nurse leaders. The assortment of content in forensic nurse programs of study emphasized one or more unique aspects of the practices, which caused pause among educators of forensic nurses. How do

educators frame the minimum skills necessary for competence in all forensic nurses? Through committee work, the educators determined that the domains and performance measures from 2004 were insufficient. In other words, core competencies and the didactic coursework to teach competencies were inadequate and inconsistent, and where present, not standardized. Practice skills were not consistent across the forensic nursing specialty, nor were they measurable. Simultaneously, SANE training with continuing education was the primary entry path for many forensic nurses. The fledgling *Journal of Forensic Nursing* reflected anthologies of unique practices and activities, not rigorous research. At the time, the typical journal article reflected continuing education *describing* the practices, which reflected the paucity of data to support the forensic nurse practice. During the mid-2000s. the promise of the new-millennium growth presented challenges to forensic nurse leaders and educators wanting to expand academic offerings in the general and advanced specialty of the forensic nurse. There was little forensic nursing science!

Academic Educator Meetings 2002–04

The excitement and promises of a new millennium revealed the educational challenges among educators of forensic nurses. Presidents Kathy Bell and Patricia M. Speck encouraged the academicians and others offering continuing education to gather at the annual conference to begin the process of aligning curricula in academic programs with nursing. The purpose of the meetings was to determine fundamental domains, content, and performance measures useful to forensic nurse educators and necessary for the specialty practice of forensic nursing to flourish. Before the process was over, faculty met at three intensive and iterative meetings (2002, 2003, and 2004) under the guidance of presidents Bell (2001–02) and Speck (2003–04).

At the 2002 IAFN Tenth Annual Scientific Conference in Minneapolis, MN, IAFN President-Elect Patricia M. Speck gathered the Education Committee members and explained the Delphi method, a consensus-driven iterative process necessary to create agreement about academic curricula in forensic nursing. A trio of leaders, Drs. Anita Hufft, Susan Patton, and Speck gathered graduate educators holding academic appointments, providing academic education in forensic nursing. They were also practicing forensic nurses. They led robust discussions about educational design, pedagogy, and varied core course content. Members teaching continuing education argued for content, not fully understanding the academic structure for curricula design and pedagogy. As educators shared their varied curricula and defended the variety of content taught, the first outcomes were evident—there were gaps, and questions arose about understanding what constitutes competency in a general forensic nurse practice. What is the unique education necessary for the forensic nursing specialty practice? And what is the basic skill set necessary for the specialized general practice? Consequently, academic pedagogy and unique curricula in 2002–04 differed amid existing continuing education offerings covering sub-specialty topics, e.g., SANE, elder, or child sexual abuse. The successful first meeting outcome in 2002 was a consensus decision to hold future meetings attended only by academic educators and organizational leaders. In the interim, the education committee continued the work necessary to define the education and practice for forensic nurses. In response to the 1998 policy supporting graduate education, the organizational leaders led the second (2003) and third (2004) meetings, which focused on the attending academic educators and graduate-prepared practitioners who had

taught in or taken accredited graduate coursework. The meeting locations included the University of Pennsylvania (2003), hosted by Dr. Kathleen Brown and Boston College Connell School of Nursing (2004) in Boston, MA, hosted by Dr. Ann W. Burgess. The two three-day meetings of academic educators were oftentimes enthusiastic but validating. The resulting agreement included common domains of forensic nursing practice, entitled *Core Competencies for the Advanced Practice Forensic Nursing* (IAFN, 2004). The four domains are classified as:

- Response to Violence
- Evidence-Based Science
- Innovation in Systems
- Education Dissemination

Reflecting the evolutionary understanding about nursing and subsequently forensic nurse education in academic settings, the IAFN Board of Directors in 2004 adopted the following statements in the Core Competencies for Advanced Practice Forensic Nursing, naming Domains and Performance Measures for the forensic nurse.

> The advanced forensic nurse practice will develop, promote, and implement protocols and systems responding to victims and perpetrators of trauma, injury, accidents, neglect, abuse, exploitation, and all forms of violence.
>
> The advanced forensic nurse practice will impact research and policy affecting human responses to violence, injury, trauma, accidents, neglect, abuse, exploitation, and all forms of victimization.
>
> The advanced forensic nurse practice will develop and supervise systems of care for complex health problems related to accidents, trauma, crime, victimization, abuse, neglect, exploitation, and all forms of violence.
>
> The advanced forensic nurse practice will educate others in the concepts and practice of forensic nursing and forensic health (IAFN, 2004, p 1-5).

In 2004, the document satisfied the contemporary understanding about the uniqueness of forensic nursing and as such, forensic nurse faculty in academic organizations aligned their forensic nursing graduate curricula to the consensus document. The intentional outcome was to expose educators to national and international nursing documents necessary to validate the conceptual framework as a curricular standard in graduate education for the forensic nurse. The alignment to the guiding national documents also removed barriers for schools of nursing wanting forensic nurse programs of study but did not know how to meet the overarching guidelines for national accreditation of schools of nursing. Consequently, the numbers of academic offerings grew. For the first time, forensic nurses aligned Lynch's forensic nursing theoretical framework (1991) to concepts, educational content, and clinical performance measures in unique populations seeking care from a forensic nurse. With SANE and rapid retirement of Advanced Forensic Nursing certification, there were hopes for an eventual generalist and advanced forensic nursing credentialing. The first two decades after the first meeting in Minneapolis, MN saw increasing numbers of Forensic Nursing MSN certificates, DNSc, and DNP programs of study from

accredited universities and schools or colleges of nursing. All programs focused on populations intersecting with legal systems, cared for by the forensic nurse, and all are an outgrowth of the formative work of the educational committee and organizational leadership during the early- to mid-2000s.

Academic Educator Meeting 2014

After the 2002–04 meetings, the next decade focused on SANE development, and with Department of Justice funding, several consensus documents emerged to guide SANE practice. The organizational focus on SANE was disappointing to educators collectively, particularly as the subject-matter experts gathered to rewrite Forensic Nursing Scope and Standards of Practice (2009). Many contributors focused on the sub-specialties in the forensic nursing specialty rather than the general specialty of the forensic nurse. The disenchantment was understood because the body politic practiced in a variety of sub-specialties under the umbrella of forensic nursing and more graduate-prepared nurses were entering the field, taking these sub-specialty roles back to their advanced nursing practices, such as the forensic nurse in mental health and forensic nurse in women's health or family practice. So, in October 2014, with an informal survey of faculty in academic institutions teaching undergraduate and graduate forensic nursing, this author determined there was ongoing interest to revisit the decade-old Core Competencies for Forensic Nursing, published in 2004. Post haste, the educational gaps were topics of discussion at the American Academy of Nursing Expert Panel on Violence, at End Violence Against Women International, the American Academy of Forensic Sciences, and at other annual interprofessional meetings where forensic nurses gathered. Other organizations (e.g., OSHA, JAACO, WHO) were publishing violence reduction guidelines for healthcare providers. With the support of Dean Doreen Harper and several professional organizations, Dr. Patricia M. Speck convened a fourth meeting, December 15-17, 2014, at the University of Alabama at Birmingham School of Nursing, Birmingham, AL. The email was sent to dozens of faculties affiliated with academic institutions and teaching forensic nursing, snowballing to others not on the list (the email letter is in Speck et al, 2024, Appendix A)

Almost two dozen academicians gathered in Birmingham to discuss the elements necessary to meet academic accreditation with forensic nursing education. The diverse faculty represented multiple academic institutions from across the U.S. Several key attendees were group leaders who were also present at the earlier educator meeting. The planners chose to use the Delphi method again, with modifications as the desired iterative process, planning for undue group influence, necessary to arrive at consensus about core elements in all forensic nursing practices and used at the 2002–04 educator and practitioner meetings. The challenges and potential limitations included the fact that many of the participants were now colleagues and friends with long-standing relationships and frequent conversations about the education of forensic nurses. The limitations of the Delphi method had an obvious relationship influence. Regardless, the primary goal remained: figure out the basic domains and descriptions, core competencies, context, and content necessary to teach to all forensic nurses desiring formal education.

As in 2002–04, Speck provided an agenda and documents to guide the 2014 attendees through a modified Delphi method over several meetings. A list of the documents provided prior to the 2014 meeting created a starting point for academicians. After preliminary orientation and during the introductory discussions, the attendees agreed that the initial document from 10 years earlier, *Core Competencies for Advanced Practice Forensic Nursing* (IAFN, 2004), was insufficient in supporting pedagogy for the current curriculum designs. Participants noted that the document was written for graduate programs and the advanced forensic nurse practices, and did not address the professional forensic nurse practices, a goal desired by all, as many courses were in RN to BSN or pre-licensure programs of study.

The planners and attendees thought that the conceptualization of forensic nurse practices by Lynch, adopted in 1992, was an umbrella role for all forensic nurse sub-specialty practices. In the interim, documents guiding nursing practice appeared to fill the gaps. One was that trauma is universal (SAMHSA, 1997), and the attendees in all meetings to date felt that as nursing grew, other evolutionary thinking was pushing the notion from Lynch's thesis that forensic nursing is in all nursing practices. They also thought that identification and consensus on core elements in general forensic nurse practices, including the domains, core competencies, concepts, context, and content, were achievable goals to align with current national nursing documents in 2014. Again, the science to support the practice reflected descriptive research and organizational policy documents contributed to an absence of clear guidance in the application of forensic nursing research to practice. While important, the attendees agreed to "park" the research discussion. Ground rules for prioritizing the information necessary to reach the goals through iterative discussions were necessary to bring consensus.

The educators at the 2014 UAB meeting realized that the existing environment in academic settings provided the foundation for building the forensic nurse specialty curricula for the undergraduate and graduate nurses in academic programs of study. Goals included figuring out the domains, core concepts, competencies, context, and content for each pillar (legal, forensic science, and forensic nursing), guiding the unique role of a forensic nurse, and standardizing all undergraduate and graduate education going forward. Discussions also reflected acceptance of the need for continuing education in all forensic nurse practices to maintain role specialization with exposure to emerging evidence in the science of forensic nursing. Promotion of new evidence was thought essential in all forensic nursing practices, especially defining the importance of continual learning and the preparation of RNs for bedside subspecialties. Regardless of academic or continuing education, pedagogy uses a foundation of nursing knowledge related to specialty areas, theory, frameworks, competencies, and skills vital to growth of the specialty and sub-specialties in forensic nursing. Who knew that expanding forensic nurse graduate programs would facilitate the same conversation in less than 10 years?

The IOM statement was one, saying "advanced practice registered nurses [RN] should be able to practice to the full extent of their education and training" (IOM, 2011, p. 278), and forensic nurse RNs were adopting the IOM mantra, too. At the same time, national nursing organizations continued to challenge educators to transition to Jean F. Giddens' conceptual model for education (Giddens, 2012). So, at the 2014 UAB meeting, a second purpose was to begin to align all forensic nursing curricula, pedagogy, and practice with concept-based education and

national nursing organizations' publications related to education, whether graduate or undergraduate. While not a goal, attendees in 2014 agreed that alignment with nursing's social contract with society, adopting ethics and practice statements from American Nurses Association, American Association of Colleges of Nursing, Commission on Collegiate Nursing Education, National Council of State Boards of Nursing, National League for Nursing, and many others aligns the specialty of the forensic nurse with all nursing practices.

On Day One of the 2014 UAB meeting, the morning was filled with informal conversations about the state of nursing and forensic nursing, and after a rapid analysis of each faculty's curriculum and content, it was clear that the content emphasized different sub-specialties in curriculum, usually reflecting the expertise of the faculty, and not one program looked like another. By lunch, participants concluded that not much had changed during the intervening decade. However, there were some commonalities in curriculum. Most taught evidence collection using forensic science, dabbled in court rules and the art of testimony, but not the science or legal principles of either. The participants concluded that an evidence gap for forensic nursing practices continued, validated by the absence of rigorous studies in peer-reviewed publications. So as one person said, "How can you teach what is not yet in the evidence for our practices?" In lieu of rigorous forensic nursing practice evidence, many educators were using consensus documents and descriptive studies from a variety of journals describing practices, cases, and case series to support and teach course content. Others used a 25-year practice lens to analyze the growth of the specialty, informing the conversation.

Day One afternoon started with an explanation of the Delphi method. The plan was to first capture individual thought before inevitable discussion and undue influence among colleagues. The questions to individual attendees focused on forensic nursing core elements, specifically, "Building on the metaparadigm of nursing (nurse-patient-health-environment), what are the overarching core concepts guiding forensic nursing?" Their independent thoughts were captured on "sticky notes," placed on a whiteboard folded. Group leaders unfolded the responses. The reveal was without collegial influence. Without comment and using the iterative process of combining concepts, distinguishing competencies, context, and content aided in the identification of core areas and the groups prioritized the areas and organized the notes in common themes. Three core areas became the practice framework priority. Descriptions of the practices reflected core thematic areas and context became sub-themes in the core area. Further modification of the Delphi method occurred with the allowance for timed discussions in groups allowing for persuasive influence. Discussion reduced the concepts as groups, prioritizing the emerging thematic topics, aligning the content under the concepts, determining competencies necessary for practice, and identifying specific context and content for the forensic nursing roles. Once the groups reported their agreement to the larger group, the overarching core elements emerged regardless of sub-specialty context. The modified iterative process resulted in three overarching core areas in forensic nursing education: legal foundations, forensic science, and forensic nursing science. The process of prioritizing separated emerging concepts and a focus on overarching core competencies common to all nursing practices and those unique in forensic nursing practices was a necessary discussion. Common content was identified in all contexts proposed—legal foundations, forensic science, and the specialty forensic nursing lens with unique application of

interventions based on the common knowledge. Participants named nursing, and separated the additional competencies necessary for the forensic nurse in a variety of different settings where distinct forensic nurse specialty and sub-specialty roles practice. These included unique domains, descriptions, core concepts, competencies, context for practice, and essential common content. The process of prioritization among forensic nursing educators helped show unique forensic nursing competencies that thread through overarching contextual situations applicable conceptually across all content areas of forensic nursing.

Following an evening of reflective "networking", Day Two of the 2014 UAB meeting revisited the core areas, the identified themes in the competencies, the context, and the content necessary for all forensic nurses, regardless of the practice role. Themes appeared as attendees brainstormed words to describe the necessary competencies for the forensic nurse. A similar process occurred, with teams working on specific areas under each of the three core elements. After the afternoon discussions, and tabling much of the earlier conversation, everyone attending agreed to strengthen the process and minimize conversation as organizers implemented the modified Delphi method, asking questions about the context for unique practices and the common elements in comprehensive approaches to forensic nursing education, using "dots" to prioritize elements in each thematic category.

On Day Three, attendees reviewed their work. The emerging themes in the context of forensic nursing supported the specialty, unique from other nursing roles, and forensic science as the borrowed science, with familiarity with legal foundations and tenets, particularly when caring for patients who were in corrections systems and with mental health pathos. Building on the previous two days, two attendees, Dr. Angelia Trujillo (Alaska) and Dr. Elizabeth Burgess Dowdell (Pennsylvania) presented conceptual exemplar cases using Giddens & Caputi conceptual model publications to demonstrate alignment with future nursing education by using two distinct case exemplars (sic* the concept of rape as a lived experience and adolescent risk using technology). Quickly, the group recognized several competencies with emerging patterns of educational themes under the three pillars. More difficult to find were the common pedagogical approaches using the three pillars of forensic nursing—legal principles, forensic science, and forensic nursing. The context for practice was never questioned by the participants who understood the practice occurred after human trauma (bio-psycho-social-spiritual) with "an intersection of nursing and legal systems" (Speck attended a IAFN think tank hosted by Janet Barber-Duval at the Sigma Theta Tau headquarters in Indianapolis, IN, and coined the quote in 1995, which was later published by Speck & Peters, 1998). Unresolved were the totality of core competencies necessary for practice and identification of all content necessary for all forensic nursing education. The notes from the meeting recorded an improved evolutionary understanding of the distinctions between the central and foundational forensic nurse domains, a description (just beginning), core concepts, competencies, context, and applicable evidence informed content. The historical notes from 2014 offered a slice-in-time understanding about the forensic nurse specialty role across the lifespan into death.

There were three other outcomes, not linked to the goals of the 2014 UAB meeting of educators. For instance, the group aligned with nursing, creating consensus about: (1) license authority—as registered nurses practicing forensic nursing, encouraging all nurses follow their

Nurse Practice Act in role and function; (2) higher education—forensic nursing education to align with accreditation standards in academic institutions of higher learning; and (3) continuing education—adhere to the functional and approved structure in nursing for awarding continuing education units.

Reflecting, the strengths of the Delphi process were in the initial design, minimizing influence among participants, and teamwork, modifying the design throughout the consensus-building process. The participant sample was a strength, representing a variety of institutions, and while minimally racially diverse, all were faculty in accredited nursing programs and had forensic nursing practices. Another strength included the student recorders who captured the language used by the forensic nurse educators and the practice components. A third strength was many of the same educators took part in 2002–04 and were present in 2014.

When there are strengths, there are also limitations, which include modification of the Delphi for expediency to bring consensus. By the end of Day Two, teams were influencing each other through personal conversations, and fatigue was a factor. When there was disagreement, the groups' discussions were persuaded through influence and evidence, which is a limitation with multiple modifications trying to limit participant influence while using the Delphi methods. Last, forensic debate brought focused evidence for positions, not necessarily in the core areas as noted by the three outcomes above, which were outside the goals of the 2014 meeting. Notwithstanding, consensus was reached through the iterative process of identifying many key concepts through priority re-alignment, which became the core elements for alignment in a priori participant groups who often based discussions on theoretical deduction rather than empirical observation or other evidence, modifying Delphi, and allowing for discussion and persuasion. Regardless, the methods using the iterative process revealed distinction between three core elements (legal foundations, forensic science, and forensic nursing science) and the possible domains, concepts, core competencies, context, and content that would be strengthened at a later meeting.

Last, the three pillars unique to the specialty of forensic nursing included a legal foundation [in U.S. law, and pertinent globally with country-specific law], forensic science, and forensic nursing science, confirming Virginia Lynch's theoretical framework for the specialty practice of forensic nursing. Themes and psychomotor competencies identified in 2014, like all evolutionary thinking, reflected understanding of the unique specialty in the context of the nurse-patient relationships, whether individual, family, community, or system, and what forensic nurses do. Interestingly, content named under each conceptual pillar was consistent across all four educator meetings in 2002–04 and again in 2014, improving confidence in the future development of forensic nursing curricula content and pedagogy. After the 2014 UAB meeting, forensic nursing curricula among higher education programs began to change to reflect the three pillars initially envisioned by Lynch (1991) and the potential for context in all practices. Elusive was a complete list of complex domains, core competencies and content that varied among universities and schools of nursing. The 2014 guiding nursing documents presented the same challenges as earlier meetings. The challenge was met with the founding of a broad professional organization to meet the needs of ALL forensic nursing practices and interests beyond SANE: the Academy of Forensic Nursing (AFN), followed by the separation and formation of the independent Forensic Nursing Certification Board (FNCB circa 2018) where the stars aligned with experienced leaders

and practitioners from the forensic nursing community at large. To fulfill the vision, FNCB is still available to forensic nurses, their organizations, and communities throughout the U.S. and in other countries. Their work centers on the adoption of the published research identifying domains of practice and core competencies and FNCB certification to the unique culture, legal context, and licensing authorities, while maintaining and integrating standardization of nursing criteria. Today, the evolution of forensic nursing continues with upcoming applications for certification accreditation from FNCB and significant forensic nursing education and networking opportunities from partnering organizations supporting forensic nurses.

Note from the Author (?)

Writing these old memories provided opportunities to reminisce and contact old friends, evoking pleasant and sometimes not-so-pleasant events, juxtaposing colleague positions, creating stresses with growth, but all necessary to continue the forward movement of a specialty aligned with nursing, and valued by all nurses globally. *Memories*… promotes the recollections and experiences of one witness to the emerging forensic nurse specialty. While lengthy, no document published, until now, captures the steps necessary to understand the 2020 Delphi project (Speck et al, 2024). In the future, others will repeat the process to bring clarity not yet addressed with this iteration of the forensic nursing specialty role development. The establishment of a generalist and advanced forensic nursing certification was an essential step in the process. Soon educators and practitioners will gather again to design curriculum that aligns with the core competencies in nursing and forensic nursing to answer the question, "What is the advanced forensic nurse from graduate programs of study?" When integration of collective thought results in aligned programs of study, accreditation of the forensic nursing education and eventual licensure recognition is within reach! Seeking accreditation of academic forensic nursing educational programs of study promises to create consistency and credibility of the specialty across all academic organizations—perhaps globally. For that, I am grateful that I was the first adopter in Minneapolis, able to stumble along, contributing with others the building blocks to evolve forensic nurse science and practice throughout the years! The journey led to a vision about the future of forensic nursing science, practice, and education that provides a path of hope to future nurses who strive to reach that elusive *World Peace*.

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Author Contributions

Dr. Patricia M. Speck made substantial contributions to article from memories, confirmed by colleague witnesses, if alive, acknowledged in the manuscript.

Conflict of Interest

The author reports adherence to the ANA Code of Ethics for Nurses with Interpretive Statements (2015).

Journal of the Academy of Forensic Nursing

Practice Perspectives

Building a Virtual Community of Practice for Novice and Advanced Forensic Nurses: Fostering Knowledge Exchange and Professional Growth

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Received: June 2024 Accepted: January 2025

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Abstract

This article addresses the contemporary issue of establishing a virtual Community of Practice (CoP) for novice and advanced forensic nurses, emphasizing knowledge exchange and professional growth. The central issue identified is the need for a structured and supportive environment for forensic nurses to continuously develop their skills and share expertise. Historical factors, such as the evolution of the CoP concept from social learning research in the 1980s, demonstrate the longstanding value of collaborative professional development. Social factors highlight the unique and diverse skill set required in forensic nursing and the challenges of professional isolation. Political factors include legislative changes and policy fragmentation that impact the availability of resources and support for forensic nursing practices. Economic factors underscore the inadequate funding allocations that limit forensic nurses' ability to provide essential services and pursue continuous professional development. The potential impacts of CoPs on individual nurses, forensic nursing organizations, and society are explored. Recommendations for developing a robust virtual CoP are provided, emphasizing mentorship, continuous learning, inclusivity, and regular evaluation, incorporating insights from stakeholders to ensure effectiveness and sustainability.

Keywords: sexual assault nurse examiner, forensic nursing, community of practice (CoP), engagement, virtual learning community

Building a Virtual Community of Practice for Novice and Advanced Forensic Nurses: Fostering Knowledge Exchange and Professional Growth

Issue Identification

Communities of Practice (CoP) are collaborative groups where individuals with shared professional interests engage in ongoing knowledge exchange and skill development (Tokolahi et al., 2024; Wenger, 2009; Wenger-Trayner & Wegner-Trayner, 2015). In healthcare, CoPs can reduce professional isolation, enhance knowledge translation, and improve clinical outcomes (Shaw et al., 2022; Wenger, 2009). Forensic nursing, a field that bridges clinical care and the legal system, faces challenges such as professional isolation, fragmented resources, and inconsistent mentorship. CoPs offer a structured approach to addressing these challenges by fostering collaboration and providing spaces for practitioners to discuss best practices, share expertise, and build professional connections (Bottoms et al., 2020).

This manuscript advocates for the development of virtual CoPs as a solution for improving professional growth in forensic nursing. Virtual platforms such as webinars, discussion boards, and resource sharing hubs allow forensic nurses to engage in knowledge exchange regardless of geographic constraints. CoPs in healthcare have successfully supported collaboration among interdisciplinary teams, such as emergency departments using CoPs to enhance elder abuse response protocols (Bloemen et al., 2024). Similar frameworks can be applied by forensic nursing to improve clinical documentation and trauma-informed care. Examples of potential applications include discussions on trauma-informed care, strategies for improving documentation of patient narratives, and interdisciplinary collaboration with legal and law enforcement professionals. By providing opportunities for mentorship and continuous learning, CoPs can enhance the delivery of forensic-nursing care while supporting professional development.

Continuous participation within a CoP enhances expertise and knowledge through ongoing interactions. These activities promote a learning cycle in which individuals apply shared practices in the workplace, refine them, and then bring them back to the community for further feedback (Li et al., 2009; Mercieca & McDonald, 2021). In the dynamic field of forensic nursing, adaptable solutions are necessary to support both novice and experienced practitioners. Collaboration, technological integration, and strategies to address accessibility and inclusivity challenges are crucial. Mentorship, continuous learning, and resource sharing, including evidence-based practices, are essential for developing and sustaining competent forensic nursing professionals. CoPs represent a vital mechanism for facilitating these processes and advancing the field.

Historical Factors

The concept of a CoP emerged in the 1980s at the Xerox Palo Alto Research Centre in California (Wenger, 1998; Mercieca & McDonald, 2021). Historically, CoPs have been used in industries like healthcare to facilitate collaboration, knowledge exchange, and professional growth (Beaudet e al., 2023). Initially focused on how practitioners learn from each other in social settings, the idea evolved to include interactions between novices and experts and eventually concentrated on individual growth and group participation (Wenger, 1998). This evolution highlights the adaptability and enduring relevance of CoPs in fostering collaborative

learning environments.

Organizations like Caterpillar, Ford, and Hewlett-Packard began adopting CoPs as a managerial strategy to bolster competitiveness (Langley et al., 2017). These companies recognized the value of CoPs in enhancing knowledge exchange, improving skills, and fostering innovation. Recruitment for the virtual CoP will leverage professional organizations and outreach through nursing conferences and academic partnerships. Recruitment efforts should emphasize diversity in membership to reflect the varied expertise, geographic distribution, and experiences within the forensic nursing community (de Carvalho-Filho et al., 2020). Social media platforms and email campaigns targeting forensic nursing professionals across disciplines and locations will further broaden inclusivity. By integrating CoPs, these organizations maintained a competitive edge in their respective industries. This historical success provides a strong precedent for the potential benefits of CoPs in other fields, including forensic nursing.

Current literature noted an increased use and evolution of CoPs in higher education, as well as a need to better understand the discourse for health-profession education settings (Jenkins et al, 2024). In forensic nursing, the application of CoPs can similarly foster professional development, improve clinical practice, and enhance collaboration among practitioners (Terry et al., 2020). However, adapting CoPs to forensic nursing requires addressing contemporary challenges such as digital integration and accessibility. Understanding the historical context of CoPs highlights the importance of leveraging these strategies while also innovating to address modern challenges. This historical perspective not only validates the relevance of CoPs in forensic nursing but also emphasizes the need for strategic adaptations to ensure their effective implementation in today's digital and geographically dispersed landscape. Current literature noted an increased use and evolution of CoPs in higher education as well as a need to better understand the discourse for health professions education settings (Jenkins et al, 2024).

Social Factors

Social interactions and relationships are fundamental to the success of CoPs. Within forensic nursing, strong social dynamics characterized by trust, mutual respect, and a sense of belonging can significantly enhance the effectiveness of CoPs. When professionals such as forensic nurses feel connected and respected within their community, they are more likely to share their knowledge and collaborate openly, leading to improved professional development and practice standards (Wenger, 2009; Wenger-Trayner & Wegner-Trayner, 2015).

Despite their specialized knowledge, forensic nurses often undervalue their expertise and face gaps in practice guidelines and role confusion (Drake et al., 2018). Additionally, forensic nurses show unwavering dedication to integrity, moral discernment, and strict adherence to professional standards (Magdaleno et al., 2024). While forensic nurses interact daily with patients, a variety of multidisciplinary healthcare providers, advocates, and legal professionals, these specialized nurses have little opportunity to engage with their forensic-nurse colleagues (Mercieca & McDonald, 2021). Virtual CoPs provide opportunities for connection by fostering collaborative relationships and breaking down geographical barriers (Shaw et al., 2022).

Forensic nurses possess diverse skills, including clinical, legal, and communication proficiencies (Wolf et al., 2022). Inclusivity in CoPs means recognizing and valuing these varied skill sets, creating opportunities for mutual learning and collaboration (Woods et al., 2016). Virtual platforms such as webinars and online discussion forums allow geographically dispersed professionals to participate, breaking down barriers related to location and accessibility (Shaw et

al., 2022). Boundary interactions further foster inclusivity by creating opportunities for collaboration and mutual learning (Langley et al, 2017; Wenger, 1998; Wenger, 2009).

However, fostering inclusivity remains a challenge. Forensic nurses from varied backgrounds and locations must feel included and valued within the CoP. This requires intentional efforts to create an environment where all voices can be heard and respected. Inclusive practices can help bridge gaps and foster a richer, more dynamic learning environment (Mercieca & McDonald, 2021). Insights from healthcare literature highlight the importance of building trust and creating safe spaces within CoPs to promote active participation and professional growth (Terry et al., 2020).

Political and Economic Factors

The development of CoPs in forensic nursing is influenced by political and economic factors, as evidenced by policies governing healthcare access for survivors of violence. Legislative changes and funding challenges influence the resources and support available for forensic nursing practices. Coordinated efforts and leadership are critical in addressing fragmented approaches to care, as a lack of consistent strategies and sufficient resource allocation contributes to gaps in the system, limiting the ability to fully address the diverse and complex needs of survivors (Emsley et al., 2022).

Forensic-nursing practitioners may encounter economic challenges stemming from insufficient funding allocations. These limitations directly impact their capacity to deliver essential services to survivors of violence, jeopardizing the quality and accessibility of care (World Health Organization, 2024). Inadequate funding constrains resources for training and professional development and impedes the implementation of evidence-based practices and innovative solutions (Huo et al., 2023). Consequently, forensic nurses may struggle to maintain their expertise and remain abreast of advancements in the field. Amidst these financial constraints, CoPs emerge as a strategic response to mitigate the adverse effects of limited resources.

Furthermore, the presence of pervasive stigma surrounding mental health and violence-related issues intensifies the challenges faced by survivors, hindering their access to appropriate healthcare services. This stigma not only marginalizes affected individuals but also contributes to systemic barriers that forensic nurses must navigate in their practice (Moulding et al., 2021). In this context, CoPs can be viewed as an initiative-taking strategy to address these challenges by fostering collaboration, knowledge exchange, and support among forensic-nursing professionals.

Potential Impact on Forensic Nursing

Virtual CoPs in forensic nursing are anticipated to positively impact individuals by providing mentorship, reducing professional isolation, and enhancing knowledge sharing. At the organizational level, CoPs support the development of standardized protocols, improved documentation practices, and interdisciplinary collaboration. On a societal level, CoPs contribute to better outcomes for survivors of violence by equipping forensic nurses with the skills and resources needed to deliver high-quality, evidence-based care (Wenger, 1998; Wegner, 2009). These benefits translate into enhanced job performance, mental well-being, and overall professional satisfaction which then impacts their organization. By leveraging these collaborative networks, CoPs contribute to improving practice by enabling forensic nursing departments to refine policies, procedures, and resource allocation strategies. CoPs facilitate the dissemination of best practices, sharing of innovative approaches, and development of standardized protocols.

Moreover, CoPs foster enhanced community safety through the implementation of evidence-based practices and the promotion of interdisciplinary collaboration among healthcare professionals, law enforcement agencies, and judiciary officials.

Discussion and Recommendations

Evidence highlights the critical role that CoPs play in professional development across various fields. Wenger (2009) emphasized the CoPs enhance knowledge exchange, professional growth, and collaborative learning, which are essential for continuous improvement in practice. Mercieca & McDonald (2021) further argued that CoPs create a dynamic learning environment where members can share experiences, refine their skills, and develop new competencies. This dynamic is particularly beneficial in specialized fields such as forensic nursing, where practitioners require a diverse skill set encompassing clinical, legal, and communication proficiencies (Wolf et al., 2022).

A virtual CoP for forensic nurses should be a flexible platform that combines activities, such as webinars with informal peer discussions through virtual forums. Key steps for establishing and maintaining the CoP include assembling a group of committed members, defining clear objectives, and appointing a facilitator to guide interactions and sustain engagement. Sustaining a virtual CoP requires intentional strategies to maintain engagement and foster a sense of community (de Carvalho-Filho et al., 2024).

Regular virtual meetings provide an opportunity to discuss shared challenges and best practices, while asynchronous tools like resource-sharing hubs provide continuous access to educational materials. Regular activities may include:

- Webinars focusing on specialized topics led by experienced forensic practitioners.
- Peer support groups to address challenges, foster emotional well-being, and encourage knowledge exchange.
- Mentorship programs to guide novice nurses in critical areas such as documentation, trauma-informed care, and courtroom preparation.

These components aim to create a vibrant and inclusive community where forensic nurses of all experience levels can grow professionally and collaboratively.

The integration of technology in CoPs has significantly transformed how professionals engage and collaborate. Gonzalez-Anta et al. (2023) demonstrated that digital platforms can break geographical barriers, enabling widespread participation and fostering inclusivity. Virtual CoPs provide a flexible and accessible space for forensic nurses to connect, share resources, and support each other, regardless of their physical locations. However, Hartnett (2024) reported that nearly 30 million people (about the population of Texas) in the U.S. live in places that lack broadband infrastructure, posing a significant challenge to the accessibility of digital CoPs.

Despite these technological advancements, digital engagement in CoPs can also lead to challenges such as digital fatigue and burnout. Romero-Rodriguez et al. (2023) assessed digital fatigue in university students, describing it as affecting eyesight, emotional well-being, motivation, and social status due to prolonged exposure to videoconferencing. Similarly, Durmus et al. (2022) studied digital burnout which manifests as sleep deprivation, reduced efficiency at work, family issues, fatigue, and stress. During lockdowns in the COVID-19 pandemic, Gregersen et al. (2023) studied the negative effects of group participation due to dependence on

digital devices for working, studying, and socializing. To address these effects, Martins (2023) suggested scheduling online meetings once a month to provide members with enough time to recover. Additionally, employing diverse engagement tools such as webinars, discussion forums, and social media can help maintain participation and interest.

Gaps and Future Directions

While existing literature highlights the benefits of CoPs, there is a need for more research on the specific impacts of virtual CoPs in forensic nursing. Future studies should explore how digital platforms can be optimized to enhance engagement and support, particularly in addressing technological disparities and digital fatigue. Additionally, investigating the long-term effects of CoPs on professional practice and patient outcomes in forensic nursing will provide valuable insights for sustaining these communities. Specific recommendations for addressing gaps and future directions for CoPs are as follows:

Develop Robust Digital Platforms. To facilitate engagement, it is crucial to utilize virtual hubs, online tools, and social media networks. Ensure these platforms are accessible, user-friendly, and supported by reliable technical assistance. For instance, utilizing scheduling tools such as Doodle helps facilitators and participants manage the frequency of meetings and schedules to fit the members' lives. Informal synchronous interactions facilitated by video conference tools such as Zoom can promote collaboration among members from various locations, aligning with the community's preferred informal, whole-group discussion style. Also, asynchronous interactions like email and discussion forums encourage members to discuss at their convenience. Dedicated online platforms and social media networks provide a space for members to connect with each other and foster a sense of belonging.

Implement Structured Mentorship Programs. Mentorship within virtual communities of practice for forensic nurses is indispensable, extending beyond mere knowledge transfer to encompass growth and professional relationship building (McLoughlin et al., 2018). Experienced members play a pivotal role by actively encouraging members to learn from each other. This peer-learning approach enhances the collective expertise for all members not just for skill development but also to promote supportive networks. By nurturing strong mentorship relationships, members feel supported and empowered to overcome challenges and achieve their goals (Bottoms et al., 2020).

Promote Continuous Learning. Formal synchronous interactions using webinars are essential components of communities of practice. Webinars serve as real-time platforms that enable participants to communicate, learn, and collectively explore topics. Features like presentations and live discussions enhance engagement and bridge the gap between virtual interaction and meaningful collaboration. Overall, webinars contribute significantly to the vitality of CoP activities, fostering growth, innovation, and interconnected knowledge sharing (Shal et al., 2025).

Share Resources and Evidence-Based Practices. Create an environment that encourages sharing case studies, research findings, educational materials, specialized training programs, expert insights, peer-to-peer support, workshops, and discussion forums. These mechanisms collectively promote evidence-based practices, continuous learning, and active participation. To support this, potential funding sources or partnerships with healthcare organizations, academic institutions, and non-profits can be explored to ensure sustainable resource sharing and professional development opportunities.

Evaluate and Adapt. To ensure effectiveness of virtual CoPs, it is crucial to carefully address several challenges, despite their significant benefits. Technological barriers, virtual fatigue, and burnout are among the key challenges that require thoughtful consideration. Lack of access to technology or high-speed internet, technical glitches, connectivity problems, and software compatibility issues hinder engagement. Digital disparities or "digital divide" have been a concern among communities across the U.S. (Hartnett, 2024). For participation to be successful among CoP members, technology must be dependable, accessible, and user-friendly with technical support available for troubleshooting issues (Wallace et al., 2021).

In developing a CoP, understanding the needs and preferences of individuals in the community can assist with reducing digital fatigue and burnout. Maintaining a regular schedule of events and activities keeps virtual CoP members retained and involved. Additionally, implementing regular feedback mechanisms, such as surveys and focus groups, can help gather insights from CoP members. This feedback can be used to continuously improve the platform and address any emerging issues promptly.

Conclusion

Establishing a virtual CoP for forensic nurses presents a promising avenue for professional development and knowledge exchange. Leveraging technology and innovative engagement strategies highlight the importance of structured planning, active facilitation, and continuous evaluation in creating sustainable and impactful communities (de Carvalho-Filho et al., 2020). A well-designed CoP can facilitate meaningful interactions and support forensic nurses in navigating their profession with confidence. Addressing challenges such as technological barriers and digital fatigue is essential for the CoP's effectiveness and long-term sustainability. Through collaborative efforts and a shared commitment to continuous improvement, the forensic-nursing community can harness the transformative potential of CoPs to drive positive change and improve outcomes for individuals and communities. This initiative can lead to better patient outcomes, enhanced public trust in healthcare systems, and a more standardized global approach to forensic nursing practices.

Acknowledgement

This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant # T96HP32499 entitled, Advanced Nurse Education-Sexual Nurse Assault Examiner Program totaling $1,479,977 with zero percentage financed with non-governmental sources. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.

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Journal of the Academy of Forensic Nursing

Practice Perspectives

Head-to-Toe Exam for SANEs: Red Flags of Serious Injuries

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Received: August 2024 Accepted: March 2025

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Abstract

In busy emergency departments (EDs), sexual assault nurse examiners (SANEs) are often the first medical providers who examine patients after a sexual assault, and throughout the evaluation the SANEs are provided with a high degree of autonomy. While most experienced emergency room nurses can very efficiently make a "sick or not sick" evaluation of a patient, less-experienced nurses may have more difficulty. Additionally, many practicing SANEs do not have an ED background. Although most sexual-assault patients have only minor physical injuries that do not require urgent intervention, there are some physical signs that warrant further evaluation. This review summarizes potentially serious findings that, with appropriate training, can be observed during a head-to-toe exam. It primarily concentrates on the general physical exam supplemented by aspects of the genital exam and observations regarding the patient's mental health.

Keywords: injuries, physical examination, sexual assault, SANE

Head-to-Toe Exam for SANEs: Red Flags of Serious Injuries

Sexual assault nurse examiners (SANEs), the largest subgroup of forensic nurses, are registered nurses who receive additional education and training in the care of sexual assault (SA) survivors. SANEs are often the first provider to evaluate the survivor, especially in busy emergency departments (EDs). Ideally, all patients should receive medical screening by a licensed medical provider, usually a physician, or, depending on institutional protocols, an advanced practice provider (APP) such as nurse practitioner or physician assistant. However, depending on

the staffing and acuity in the department, the timing of the detailed exam may not precede the exam by a forensic nurse. The initial screening may also be limited, especially in a stable-appearing patient, due to concerns about touching the patient or removing clothing prior to evidence collection. Not all medical forensic exams are done in EDs, and many forensic nurses may not have had ED experience. Therefore, it is important that the nursing provider can recognize emergent or life-threatening injuries and properly escalate patient care. This knowledge is applicable to a broader population than sexual assault survivors, such as survivors of intimate partner violence, child abuse, and elder abuse. However, this review focuses on the examination structure most relevant to the evaluation of SA patients.

Published works describing injury prevalence in sexual assault patients lacks standardization in describing and categorizing injuries, making it difficult to draw generalized conclusions. The inconsistency in terminology limits the ability to identify patterns of injury with sexual assault. There have been attempts to standardize the descriptions, but so far they have not been consistently reflected in literature.

Studies have shown that the prevalence of traumatic injuries in SA patients who present to the ED varies widely (Alempijevic et al., 2007; Maguire et al., 2009; McCormack et al., 2022; Sugar et al., 2004). Physical injuries tend to be mild with major/severe injuries infrequently seen. One study found that out of 157 SA survivors 13 years of age or older included in the study, 36.3% had traumatic injuries, out of which 7.6% were classified as a major trauma (McCormack et al., 2022). Another study of 113 patients demonstrated that 44% of victims had light injuries, 18% moderate, and only one person (0.9%) had severe injuries (Alempijevic et al., 2007). Factors predisposing to bodily injuries were the use of alcohol and outdoor location of the assault (Maguire et al., 2009).

Examination of the genitals also has the potential for discovering a rare injury that requires repair in the operating room or has risk for a significant infection (Cybulska, 2013). Due to different definitions and classifications of genital injuries, it is also difficult to quantify the prevalence of genital injury. However, injuries are mostly minor and include bruising, lacerations, abrasions, tears, and tenderness (Kane et al., 2023; McNair & Boisvert, 2021; Ouellette et al., 2022; Sawyer Sommers, 2007). One of the reviews described that 41% of injuries included redness, 15% abrasions, 14% tears/lacerations, and 4% bruises (McNair & Boisvert, 2021). A comprehensive literature review found a wide range of genital injuries (50-90%) in SA survivors, which varied depending on time since the assault and examination techniques used (Sawyer Sommers, 2007). The most common location of injuries was the posterior fourchette (70% of patients with genital injuries) followed by labia minora, hymen, and fossa navicularis (53%, 29%, and 25%, respectively).

This review will also discuss red flags that should warrant a psychiatric evaluation of these patient populations. There are studies suggesting that pre-existing mental illness puts patients at higher risk of being sexually assaulted (Brown et al., 2013; Krahé & Berger, 2017; Manning et al., 2019; Miles et al., 2022). One of these studies found that 46.7% of survivors included in the study reported a pre-existing mental illness (Miles et al., 2022). Patients with pre-existing mental illness were also found to be assaulted more often by acquaintances, and their assaults were more violent and resulted in more injuries, both physical and anogenital. Some of the most common pre-existing mental health problems include anxiety (61%), depression (59%), and bipolar spectrum (33%) (Brown et al., 2013). These vulnerable patients are also at a higher risk of post-assault worsening of their preexisting mental health condition (Cybulska, 2013;

Dworkin et al., 2017; Mason & Lodrick, 2013; Nicholas et al., 2022). A large meta-analysis was performed that concluded that SA carries a subsequent risk of not only PTSD and suicidality, but also exacerbation of other psychopathologies—for example, bipolar disorder and obsessive-compulsive disorder (Dworkin et al., 2017). Suicidality was also increased in male SA survivors (Nicholas et al., 2022). Since SANEs are the providers who will spend the most time with the patient, they should be able to recognize signs that would warrant further psychiatric evaluation.

This review concentrates on "red flags"—injuries that are significant and should not be missed. Due to space constraints, topics routinely covered during SANE training and included in standard protocols such as sexually transmitted illness prevention and treatment, documentation of minor wounds, and detailed post-strangulation evaluation, although important, are outside the scope of this review.

General Principles of the Physical Exam

Head-to-toe exams are a part of SANE assessments and are described in the teaching guidelines (*International Association of Forensic Nurses - Research.Educate.Lead*, n.d.). Medical teaching identifies several parts of the physical exam—namely, observation, palpation, percussion, and auscultation (Walker, Kenneth, Hall, W. Dallas, 1990). Skin exposure is necessary for a full evaluation, but the patient should be provided with the maximal privacy and coverage possible. Some observed injuries may require intervention. For example, deep, irregular, heavily bleeding lacerations may need repair. After collecting evidence, if indicated, palpation allows for further evaluation of observed abnormalities such as skin discoloration, abrasions, hematomas/contusions, or deformities to identify injuries that may need imaging. Palpation is also useful with areas that appear normal, but per history carry the risk of injury that may only be identified through tenderness on exam and may require additional work-up. Additional techniques such as percussion and auscultation may be useful during abdominal and lung exams to evaluate for bowel sounds, fluid collection, or lung injury or consolidation. With unilateral injuries, examiners may find it helpful to compare pertinent exam findings to the contralateral side of the body to assess for differences and whether further evaluation is necessary. Appendix A contains a table of common physical findings and subjective symptoms, in association with the suspected underlying injury.

Head, Eyes, Ears, Nose, and Throat (HEENT) Injuries

Ear examination should include evaluation of the tympanic membrane and contours of the auricular (ear) cartilage if the forensic nurse has been trained and is comfortable with performing the exam. The retroauricular/mastoid region (the area behind the ear) should be evaluated for associated signs of injury. Swelling and tenderness of the ear may indicate the presence of an **auricular hematoma**. These require drainage as persistent hematomas can cause cartilage destruction and a permanent ear deformity, commonly referred to as "cauliflower ear". **Hemotympanum** (blood behind the tympanic membrane) or bloody drainage should prompt concern for intracranial bleed and skull fracture.

Retroauricular/mastoid ecchymosis, also known as **Battle's sign**, can be suggestive of a basilar skull fracture *particularly in the setting of blunt head trauma*. This physical exam finding occurs one to three days after fracture and most commonly involves the temporal bone (Becker et al., 2024). Nausea/vomiting, clear rhinorrhea/otorrhea, or hemotympanum may also be seen. Periorbital ecchymosis, also known as "raccoon eyes", can also be seen with **basilar skull fractures**. It also appears one to three days after injury, and if present bilaterally, is highly

predictive of a basilar skull fracture (Leslie Simon & Newton, 2023). Additional imaging (usually CT scan without contrast) should be pursued if clinical suspicion is high, with emergent neurosurgical consultation if the basilar skull fracture is confirmed.

Ocular examination should include evaluation of extraocular movements, visual acuity, and pupillary light reflexes. All eyelid lacerations and globe deformities need to be evaluated by a physician, and may need an ophthalmology consult, due to concerns for tear-duct injuries and globe rupture. Eyelid lacerations may involve the tear ducts of the eye and, if not properly diagnosed and treated, can lead to poor drainage and increased risk of eye infections that could progress to loss of vision. Complex lacerations involving the lid margin or tear duct and full thickness lacerations may need repair in the operating room. Globe ruptures are also extremely important to be diagnosed and treated promptly to preserve the integrity of the eye and maximize chances of preserving vision. Deformity or depression of the globe, or leakage of fluid, should prompt concern for possible rupture. Abnormal eye movements, such as **vertical nystagmus**, which involves a rhythmic pattern of eye movements darting upward/downward, may suggest a concussion or traumatic brain injury (TBI). Of note, vertical nystagmus can also be caused by using the street drug phencyclidine (PCP) (Tintinalli, Judith E, 2019). If a patient is unable to look in a specific direction after trauma to the face, there should be concern for extraocular muscle entrapment which can be caused by an orbital fracture. This can be further evaluated with an urgent CT of facial bones without contrast. **Anisocoria**, or a difference in pupil size between eyes, can be a sign of damage to the eye, carotid artery, or an intracranial injury**. Exophthalmos** (eye protruding out of the orbit) should prompt concern for **retrobulbar hematoma**, especially if the patient is experiencing decreased visual acuity. This is an emergency because of the risk of vision loss. Patients may need an emergency procedure to relieve the pressure (lateral canthotomy). These patients usually experience other symptoms such as severe pain, nausea/vomiting, difficulty opening eyes, periorbital ecchymosis, eyelid hematoma, or vision loss. If there is a suspicion for retrobulbar hematoma, no extra pressure should be applied to the eye such as with palpation or instrumentation. Finally, the presence of subconjunctival hemorrhages or petechiae on the lids or face should ignite concern for strangulation and prompt further investigation.

Oral examination should assess for intraoral lacerations, frenulum injury, petechiae, injury to the palate, tooth fracture/avulsion, and mandible dislocation/fractures. Tooth injuries include **fractures**, **subluxations**, or **avulsions**. Fractures should be urgently followed up with a dentist. In case of dentin or pulp exposure (the tooth fracture has yellow or reddish color, respectively; it may also bleed with pulp exposure), calcium hydroxide should be applied to temporarily seal the fracture. Tooth subluxation is a partial displacement of a tooth that requires repositioning, splinting, and urgent dental follow up. Completely avulsed teeth should be handled only by the crown due to the presence of periodontal ligament on the root, which helps adhere the tooth root to alveolar bone. Place avulsed teeth in Hank's Balanced Salt Solution or oral rehydration solution (such as Pedialyte) as soon as possible to best preserve viability for up to 12–24 hours (Ashkenazi et al., 2001). Milk or saline may also be used, though with decreased viability of the tooth. Avulsed teeth should ideally be reimplanted and splinted within 30 minutes for the greatest chance of success. Teeth that have been out and dry for greater than two hours have a poor replantation prognosis with 95% chance of external root resorption, or immune system destruction of the tooth root (Andreasen, 1981). Urgent followup with a dentist is recommended. Malocclusion, or abnormal alignment of the upper and lower teeth, may be suggestive of a tooth injury or **mandibular fracture**. There may be decreased range of motion (ROM), bony point

tenderness, or a positive bite test. A bite test is performed with the patient holding a wooden tongue depressor between their molars on the affected side while the examiner attempts to twist the depressor in order to break it. If the depressor is broken, the likelihood of a mandibular fracture is very low (Caputo et al., 2013). Inability to close the mouth may indicate mandibular dislocation requiring reduction.

Neck Injuries

Evaluation for strangulation is an important part of the examination of a survivor of sexual assault and/or intimate partner violence. The occurrence of non-fatal strangulation has been estimated to be present in 12–40% of sexual assaults depending on the reporting methods and population studied (Mcquown et al., 2016; Parekh et al., 2024; Zilkens et al., 2016). There are several mechanisms leading to injury from strangulation: hypoxia, increased intracranial pressure, damage to neck structures (such as cervical spine, larynx, laryngeal nerve, and soft tissues), vascular injuries (both venous and arterial), and potentially, stimulation of a carotid body causing arrhythmias (*International Association of Forensic Nurses - Research.Educate.Lead*, n.d.; *Training Institute on Strangulation Prevention*, n.d.). Since some patients may not recall being strangled, all providers assessing the patient need to have a high degree of suspicion and perform a thorough evaluation of the neck to look for tenderness and injuries. The eyes, face, scalp, ears, and oral cavity should also be evaluated to look for petechiae and subconjunctival hemorrhages.

Other important aspects of a neck evaluation are assessment of the airway and cervical spine. Concerns about injury to either one should trigger emergent medical evaluation and possible imaging. The airway should also be assessed for patency, ability to talk and swallow, and for any evidence of compromise including drooling, tripod positioning, voice hoarseness, or stridor. Each bone in the cervical spine should be palpated for any midline tenderness or step-offs (severe misalignment of vertebrae). Distinct bony tenderness should prompt concern for vertebral fracture and the patient should then be placed in a C-collar, as a precautionary measure, until further imaging can be obtained. If there is no tenderness upon palpation, the neck should be examined through its full range of motion, including flexion/extension and lateral flexion. Any neurologic deficits would also indicate the need for C-collar stabilization and advanced imaging (Tintinalli, Judith E, 2019).

Thoracic Injuries

Rib fractures are one of the most common injuries in blunt chest trauma (Dogrul et al., 2020). Other injuries include sternal fractures, most commonly in the body of the sternum. Patients may complain of chest wall pain or dyspnea. Bony point tenderness, crepitus, ecchymosis, or soft tissue swelling may also be noted on exam. Unequal or decreased lung sounds should increase suspicion for **hemothorax** (blood in the pleural cavity) or **pneumothorax** (air in the pleural cavity), which may require needle decompression or placement of a pigtail/chest tube. Most rib fractures can be managed conservatively. Pain may limit depth of inspiration and increase risk of developing pneumonia, particularly for elderly patients or those with underlying pulmonary disease (Chauny et al., 2012). It is important to provide adequate pain management and to avoid circumferential wraps/braces. Segmental fractures of three or more consecutive ribs are referred to as "**flail chest**". Flail chest can present with paradoxical breathing, where the fractured region is depressed during inhalation and elevated during exhalation. It is associated with respiratory failure secondary to pulmonary contusion and may require intubation and/or surgical fixation. Thoracic trauma should also prompt evaluation of the patient's spine with accompanying neurological exam. Bony point tenderness or deformities like step-offs may

indicate further imaging, especially if associated with neurological deficits such as weakness or urinary/bowel incontinence. If there is concern for spinal cord injury or spinal cord compression, rectal tone should be tested with a digital rectal exam done by a physician or APP.

Abdominal Injuries

As mentioned with the discussion of Battle sign or raccoon eyes, sometimes a bruise is not just a bruise. When it comes to abdominal exams, there are two ecchymotic distributions that should heighten concern for more significant injuries. Flank ecchymosis and periumbilical ecchymosis are findings concerning for possible **retroperitoneal hemorrhage** (bleeding into retroperitoneal space). These bruises are referred to as **Grey Turner sign** and **Cullen sign**, respectively. Both take around one to two days to develop after injury (Barlotta et al., 2021). Of note, Cullen sign also may represent **intraperitoneal hemorrhage**. Retroperitoneal hemorrhages can be life threatening for several reasons. They are usually not diagnosed with bedside ultrasound (or FAST exam) due to difficulty visualizing the retroperitoneal space. Also, the retroperitoneal space can accumulate up to four liters of blood before tamponade occurs, increasing risk of shock and death (Wheeless et al., 2016). Pelvic and spinal fractures are some injuries that may cause retroperitoneal bleeding, though this can occur with injuries to any retroperitoneal organ such as the pancreas and kidneys. Patients may complain of abdominal, flank, or low back pain.

Abdominal palpation should assess for tenderness, including **guarding** and **rebound**. Both are signs of an acute abdomen, which warrants additional imaging. Guarding refers to contraction of abdominal wall muscles during palpation. It can be voluntary or involuntary. Voluntary guarding tends to be generalized with patients contracting their abdominal wall muscles in anticipation of pain from palpation. Involuntary guarding involves abdominal muscle tightening secondary to peritoneal inflammation. It is often localized to a quadrant and may also be termed “rigidity”. Distracting the patient via conversation can help to distinguish the two as voluntary guarding will likely improve with distraction. Rebound tenderness is another finding suggestive of an acute abdomen. It occurs when there is abrupt pain with sudden release of compression during deep palpation. Palpation should be held for a couple seconds prior to release and assessment for pain. Rebound tenderness is therefore defined as more pain with the release of compression than with palpation itself. If there is guarding or rebound tenderness on exam, additional imaging should be considered to rule out intraperitoneal hemorrhage, liver/spleen laceration, or perforated viscus such as a CT of abdomen and pelvis or CT angiogram.

Extremity Injuries

A thorough musculoskeletal exam involves examining each joint throughout its entire range of motion to evaluate for deformities and assess for pulses, nerve distributions, and perfusion. Palpation should include assessment for bony point tenderness, but also compression along the extremity itself, which should reveal soft compartments. Tense or firm compartments should raise suspicion for **compartment syndrome**, a surgical emergency that arises when swelling causes increased pressure within a fascial compartment leading to compromise of the vascular and nervous systems. Another early sign, and the most sensitive, of compartment syndrome is pain with stretching of the involved muscles (Tintinalli, Judith E, 2019). Compartment syndrome is most common in the forearm and lower legs (Via et al., 2015). If a patient has a gross deformity, significant swelling, tenderness, decreased range of motion, or other findings concerning for an **acute fracture**, it is important to ensure pulses and sensation are intact in the involved extremities. Absence of pulses indicates a need for emergent reduction of

the suspected fracture to attempt to regain perfusion to the extremity. Any violation of the skin barrier associated with a fracture is classified as an open fracture and should include treatment with prophylactic antibiotics and evaluation of tetanus status.

Genital Injuries

As mentioned before, most genital injuries if present after SA are minor. SANEs should be aware of lacerations that may need repair, either at the bedside, or in the operating room. There is no specific classification of traumatic genital lacerations, but many reports in sexual assault literature use the obstetric classification, as described in Table 1 (Cunningham, Leveno, Bloom, et.al., 2018). All deeper lacerations should be evaluated by a physician or an APP. This classification is helpful in establishing the further care necessary for the patient. Deep vaginal lacerations have the potential to bleed significantly. These lacerations are rare but have been reported in both SA and consensual intercourse, and sometimes lead to a vaginal vault rupture, which is more common in postmenopausal women with vaginal atrophy and in patients who have had a hysterectomy (Benrubi, 2018). The term vaginal fornix refers to the area between the cervix and the vaginal wall. Deep lacerations of the vaginal wall are most commonly located in the posterior and lateral fornix (Benrubi, 2018). In addition to lacerations, there are reported cases of evisceration of abdominal contents (Abraham et al., 2016; Frioux et al., 2011; Gujar et al., 2011; Preuss et al., 2022). Oral-genital sex, when the recipient is female, can result in some rare but possible complications: pneumoperitoneum and air embolism (Benrubi, 2018). Pneumoperitoneum can present with abdominal pain that can radiate to the shoulder. Peritoneal signs may be absent. These patients would warrant surgical consultation but are most often managed conservatively. Though a report described seven fatal cases of air embolism that occurred in pregnant women at least 20 weeks of gestation (Elam AL, Ray VG., 1986), it is not clear if this complication occurs in non-pregnant women. *Vulvar/labial hematoma* may be a complication of blunt injury, or, less frequently, human bite (Benrubi, Guy I, 2018). Such hematomas can be very painful and may need surgical intervention or drainage. Depending on the mechanism, there may be increased risk of infection from bite wounds or other penetrating wounds. In many cases, conservative treatment including bedrest, analgesia, and ice packs may be sufficient, but pain and swelling may be too significant for voluntary voiding and patients may require a Foley catheter.

Table 1.
Obstetric Classification of Lacerations and Interventions (Cunningham, Leveno, Bloom et.al., 2018).

Degree of Laceration	Description	Intervention
First	Fourchette, perineal skin, vaginal mucosa	Depending on the depth, bedside repair
Second	Fascia and muscle of the perineal body, but not anal sphincter	Often bedside repair sufficient
Third	External anal sphincter	Operating room
Fourth	Through rectal mucosa, disruption of both internal and external anal sphincter	Operating room

The presence of genital lesions should trigger an evaluation by a physician or an APP. Genital lesions may indicate a sexually transmitted illness such as herpes, syphilis, chlamydia, or chancroid, or may indicate a non-infectious condition such as cancer, Behcet disease, lupus or allergic reaction. If present, it is important for the patient to have a more thorough evaluation with appropriate follow up.

Treatment decisions regarding anal injuries in all gender patients would be similar to the treatment of perineal injuries in a female as described in Table 1. Any injuries involving either the internal or external anal sphincter should be evaluated by a surgeon. Superficial injuries may be suitable for bedside repair or may heal spontaneously (Herzig, 2012). Forensic nurses should have a low threshold for consulting a physician or an APP for injuries other than minor abrasions.

There are no published reports of significant penile injuries due to sexual assault. There are multiple case reports of **penile fractures** during sexual activities; cases reviewed were during consensual intercourse. Physical exams in such conditions demonstrate a tender and swollen penis, often with purpuric discoloration, and would necessitate evaluation for urinary retention and urgent urological consultation (Imran et al., 2023; Kajerero et al., 2023; Nandana & Putra Nugraha, 2023; Ngowi et al., 2023; Yogi et al., 2022).

Psychiatric Evaluation

Patients exposed to traumatic events may suffer from acute stress disorder and potentially post-traumatic stress disorder (Bryant, 2017, 2018; Thakur et al., 2022). Detailed evaluation for these conditions is outside the scope of a standard SANE evaluation, but patients should be given counseling and psychological or psychiatric follow-up referrals as needed. However, since patients with pre-existing mental illness are at higher risk for assault and are susceptible to post-traumatic exacerbation of their condition (Brown et al., 2013; Christ et al., 2018; Krahé & Berger, 2017; Manning et al., 2019; Miles et al., 2022), some of them may need an urgent psychiatric evaluation during the encounter for SA. Because of the time spent and the personal nature of their interaction with patients during the medical forensic exam, SANEs are the most likely member of the team to pick up on patient statements and behaviors that would necessitate further evaluation. Such signs could include statements indicative of depression, hopelessness, anxiety, and suicidal or homicidal thoughts with or without a plan. When deciding which patients should be provided with psychiatric evaluation prior to discharge, it is useful to review the criteria for involuntary admission as defined by the American Psychiatric Association. The criteria are as follows: “As the result of the mental disorder, the person is likely to (i) cause harm to self; (ii) suffer physical harm as a result of an inability to satisfy the person’s basic needs for nourishment, personal or medical care, shelter, or self-protection; (iii) suffer substantial mental deterioration associated with significant impairment of judgment, reason, or behavior causing a marked decrement in the person’s previous ability to function; or (iv) cause harm to others.” (American Psychiatric Association, 2020). Although it is outside the scope of practice of a registered nurse to make a decision regarding involuntary admission, they are in a position to notice signs that the patient may be unsafe to discharge, or a danger to self or others, and to request evaluation by a physician or an APP.

Conclusion

Medical screening exams should precede evaluation by a forensic nurse, but sometimes in a stable patient in a busy emergency department, they may not be completed in detail or the licensed provider may have concerns about clothing removal due to the forthcoming evidence

collection. SANEs may be the first medical providers to examine the patient without clothing and to perform a complete head-to-toe exam. It is important that the evaluating SANE, or a forensic nurse in general, is vigilant and has a low threshold to trigger a more detailed medical evaluation if any concerns arise. Having said that, some elements of the exam require advanced nursing skills and additional training may be needed, especially for nurses who do not have clinical experience with critical patients in the emergency department or intensive care settings. The majority of SA exams done in the ED will have a physician present on site. However, in states that have standalone Sexual Assault centers, it is essential for the SANE providing forensic services to be thoroughly trained in assessing, identifying, and addressing significant findings. They must also be prepared to pursue additional testing and imaging when necessary. When staffing these freestanding SA centers, having an advanced practice provider available on-site should be considered. If this is not feasible, a clear protocol and algorithm should be established to ensure prompt access to these providers for consultation and escalation.

Acknowledgements

The authors would like to thank SANEs Conner Smith, Alex Kickert, and Bethann Groot for their thoughtful review and comments on the manuscript.

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Appendix A: Physical Findings and Suspected Injuries

Body Area	Exam Findings	Subjective Symptoms	Suspected Injury
Head	Raccoon eyes, Battle sign, skull deformity, CSF rhino-/otorrhea	Headache, dizziness, vision/hearing changes	Basilar skull fracture
Ears	Hemotympanum	Headache, confusion, photophobia, nausea/vomiting, vision/hearing changes	Intracranial bleed
	Auricular cartilage swelling/deformity	External ear pain/swelling, warmth, decreased/muffled hearing	Auricular hematoma
Eyes	Anisocoria (uneven pupils)	Headache, neck/facial pain, pulsatile tinnitus, vision changes, focal weakness/numbness	Carotid/cerebral artery dissection
	Vertical nystagmus	Headache, dizziness, confusion, amnesia, nausea/vomiting, vision/hearing changes, mood swings	Traumatic brain injury, concussion
	Proptosis, vision loss	Severe eye pain, pressure behind eye, vision changes, painful eye movements	Retrobulbar hematoma
	Abnormal extraocular movements	Double vision, painful eye movements, vision changes, periorbital swelling, facial numbness	Extraocular muscle entrapment, orbital fracture
	Deformed or deflated globe	Severe eye pain, fluid gush from eye, vision changes, photophobia, periorbital swelling, nausea/vomiting	Globe rupture
Mouth	Misaligned tooth	Tooth pain/sensitivity, rough tooth edge, tooth instability, gum swelling/bleeding	Tooth fracture, subluxation, or avulsion
	Malocclusion	Jaw pain/swelling, limited mouth opening, difficulty chewing or speaking	Mandibular fracture
Neck	Bruising, bruit with auscultation	Unilateral neck pain, facial/jaw pain, headache, dizziness, speech difficulties, vision changes, tinnitus	Carotid artery dissection
	Midline tenderness, step-offs, neurologic deficits	Localized back pain, numbness/tingling, weakness/paralysis of limbs, bowel/bladder dysfunction	Spinal fracture or subluxation, spinal cord injury
Thorax	Chest wall tenderness, crepitus, swelling	Localized chest pain, chest tightness, shortness of breath or dyspnea	Rib or sternal fracture
	Paradoxical breathing	Chest pain, dyspnea, hemoptysis	Flail chest; pulmonary contusion
	Absent lung sounds	Chest pain, dyspnea, cough/hemoptysis, chest tightness/fullness, light-headedness	Hemo-/pneumothorax
Abdo-men	Guarding, rebound	Severe abdominal pain worse with movement, bloating, nausea/vomiting, anorexia	Acute abdomen or peritonitis
	Grey Turner sign, Cullen sign	Abdominal or back pain, nausea/vomiting, dyspnea, light-headedness	Intra-/retroperitoneal bleed
Extrem-ities	Extreme tenderness, tense compartments, skin discoloration	Severe pain disproportionate to injury, pain with limb movement, numbness/tingling, weakness/paralysis	Compartment syndrome
	Deformity, absent pulses, skin discoloration	Localized pain, swelling, inability to move limb, numbness/tingling, cold sensation	Fracture or dislocation, vascular injury
Vagina	Sharp pain during vaginal penetration, bleeding, abdominal pain	Pain during exam, bleeding, peritoneal signs	Deep vaginal laceration, vaginal perforation
Anus	Deep laceration, bleeding, pain, incontinence	Pain, bleeding	Anal sphincter injury

Journal of the Academy of Forensic Nursing

Practice Perspectives

Growth Faltering in the Very Young: Implications for Forensic Nurses

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Received: November, 2024 Accepted: March, 2025

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Abstract

Growth faltering (GF), also known as failure-to-thrive (FTT), is a serious health threat in both adults and children that forensic nurses (FNs) may encounter. Children who fail to grow optimally often miss critical developmental milestones due to insufficient nutrition, which is essential for normal child development. GF and FTT are symptoms, not final diagnoses. Therefore, FNs should use critical thinking and assessment skills to identify the underlying causes. This article provides insights into the FNs approach to evaluating a child with GF. It emphasizes the importance of gathering a detailed psychosocial history, assessing growth trends, and considering multidisciplinary referrals when necessary. The aim is to equip FNs with the best practices to address GF, particularly when they are involved as experts in court cases or in situations reported to Child Protective Services (CPS).

Keywords: growth faltering, infant feeding, early childhood nutrition, forensic nursing, child neglect, nutritional assessment.

Growth Faltering in the Very Young: Implications for Forensic Nurses

Growth faltering (GF), also known as failure-to-thrive (FTT), refers to individuals who do not reach expected growth norms, projected growth trajectories based on age, or those who fall behind due to weight loss. The root cause of GF is always insufficient nutrition, and it is the healthcare provider's responsibility to investigate the reasons behind this (Duryea, 2022; Frank & Rogers, 2023; Larson-Nath & Biank, 2016; Vachani, 2023). Common causes include diminished caloric intake, high metabolic demands, or underlying medical conditions that impair nutrient absorption (Tang et al., 2021). The extensive list of potential causes makes the forensic nurse's (FNs) evaluation of GF particularly challenging, especially in cases of suspected child neglect as the possible underlying cause.

FNs often play a pivotal role in assessing allegations of child neglect (Faugno et al., 2022). FNs need skills to differentiate between caregiver neglect and a variety of other medical and social contributors to GF. Understanding the root cause(s) is critical to directing the range of appropriate services that may be needed to support children and families, including in-home support, education, hospitalization, and foster care placement in some cases. This article aims to guide FNs in assessing, evaluating, and managing the care of very young children under the age of three with GF to improve outcomes for children and families.

GF Terminology and Definitions

GF has also been referred to as FTT, weight faltering, undernutrition and growth deficit, among other terms (Duryea, 2022; Goodwin et al., 2023). We use GF to avoid the distressing and stigmatizing connotation of the term "failure." Additionally, GF accurately describes the problem and is the more current terminology (Goodwin et al., 2023). Although GF can occur at any age, it is most concerning for infants and toddlers under the age of three due to its potential negative effects on milestone attainment and brain development, which can be irreversible (De Sanctis et al., 2021).

GF is an appropriate label for any one of the following situations:

- An infant or child with a weight that is less than the 2nd percentile for gestation-corrected age and sex, and a weight velocity that is disproportionate to growth. Weight velocity refers to the rate at which a child's weight changes over a specific period. Weight velocity is typically measured in grams per day (g/day) as outlined in Table 1 (adapted from Kistin & Frank, 2018), or grams per month (g/month) and can be calculated by taking the difference in weight between two time points and dividing by the number of days or months between those points.
- An infant or child with a weight less than the 2nd percentile for gestation-corrected age and sex on more than one occasion that is disproportionate to growth *or* an infant or child with a weight less than 80% of ideal weight-for-age using a standard growth chart.
- An infant or child with a depressed weight-for-length (i.e., weight-for-age less than length-age, weight-for-length less than the 10th percentile).
- A rate of weight change that causes a decrease of two or more major percentile lines within a six month period
- A rate of weight gain less than that expected for age in the absence of illness.

- A Z-score between -2.0 to -3.0, which indicates a young person is moderately malnourished, *or* a Z-score less than -3.0, which indicates a young person is severely malnourished (Casey, 2009, p. 583 as cited in King & Duryea, 2024; Smith et al., 2022).

Table 1.
Rate of Daily Weight Gain Expected for Age

Age	Weight Gain
0-3 months	26-31 g/day
3-6 months	17-18 g/day
6-9 months	12-13 g/day
9-12 months	9-13 g/day
1-3 years	7-9 g/day

Multifactorial Causes of GF

The causes of GF in young children are often multifactorial resulting from medical, developmental, and behavioral problems, as well as food insecurity, poverty, and social challenges at home (Duryea, 2022; Goodwin et al., 2023; Roberts et al., 2022; Vachani, 2023). Insufficient intake is a common underlying cause, but it is important to consider differential medical diagnoses, such as cystic fibrosis, gastrointestinal dysfunction, or hormonal abnormalities, amongst others, which may impair nutrient absorption or caloric expenditure in the body (Duryea, 2022; Goodwin et al., 2023; Vachani, 2023; Yadav & Dabas, 2015).

Among children hospitalized with weight loss or inability to gain weight, 59-86% will have inorganic problems, where the issue is not a medical disease but a social, psychosocial, or psychological cause (Peterson Lu et al., 2023; Smith et al., 2022; Tang et al., 2021). Examples include single-parent families with strained budgets or lack of resources, parents with undiagnosed postpartum depression, substance use disorders, and food insecurity. Additionally, many causes of poor weight gain are related to unidentified feeding behavior, breastfeeding problems, or incorrect feeding (Peterson Lu et al., 2023; Smith et al., 2022; Stack & Meredith, 2018; Tang et al., 2021). Since GF may stem from an underlying, correctable medical condition, close collaboration with a primary care provider who knows the family well is essential for the best prognosis (Vachani, 2018).

Effects of GF

Untreated GF can cause effects ranging from subtle to severe in developing children. Many young children with prolonged malnutrition experience delayed milestone attainment, muscle wasting, and stunted growth, the latter of which occurs in approximately 4-7% of children with GF (De Sanctis et al., 2021; Victora et al., 2021). The youngest children with GF are the most vulnerable due to the rapid growth experienced during this stage of life. Infants and young children with significant GF often have weaker immune systems, delayed wound healing, short stature, deficient language development, reduced motor activity, decreased responsiveness, poor attention spans, major learning difficulties, and diminished social skills (Vachani, 2023; De Sanctis et al., 2021; Soliman et al., 2021; Calder et al., 2020). Some of these outcomes can be irreversible if not caught during the early stages (De Sanctis et al., 2021).

Populations at Risk for GF

Certain populations are more susceptible to complications from GF, especially those with special medical needs who may already have baseline developmental delays. Infants and young children in impoverished countries and communities face the most severe consequences, with higher mortality rates. Childhood malnutrition remains a leading cause of morbidity and mortality worldwide, affecting up to 45% of children under the age of five globally (Tang et al., 2021). Children affected by GF may be undocumented, refugees, or live in impoverished areas, and often have a history of low birth weight or other prenatal health complications (Duryea, 2022; Victora et al., 2021). Parental risk factors for having a child with GF include mental health disorders, intellectual disabilities, and addiction (Vachani, 2018). To accurately identify all potential causes of growth failure, the forensic nurse must take a comprehensive, holistic approach to the assessment, considering both the child's medical and developmental needs as well as the family's psychosocial and environmental factors.

Forensic Nurses and the GF Evaluation

Child Neglect and GF

Child maltreatment - due to acts of commission or omission - is one cause of GF (Faugno et al., 2022). The FN has a central role in assessing allegations of child maltreatment, including nutritional neglect, deprivation, and starvation, which may occur in abused children. Careful, multidisciplinary evaluations of children who may be the victims of neglect, deprivation, and abuse are essential to recognizing overt neglect and differentiating it from unintentional or social causes outside the family's locus of control (Faugno et al., 2022).

FNs play vital roles in multidisciplinary teams (MDTs) and community partners, assisting social workers, law enforcement agents, judges, and victim advocates with case assessments and decisions (Palusci, 2022). In cases of GF, the FN helps the MDT or partner determine the reasons for a young patient's GF and recommend appropriate services. If the MDT or partner identifies neglect in a family, the FN may be crucial in rescuing children who are victims of abuse and neglect or in assisting families who are not intentionally negligent but face significant financial, social, or educational challenges.

Components of the Forensic Nursing Evaluation of GF

FNs should recognize that children's growth rates and measurements can naturally fluctuate over time. However, consistent deviations from the average can signal potential health issues requiring further assessment by the nurse or FN in collaboration with Child Protective Services (CPS). A thorough forensic nursing assessment includes five key elements: (1) selecting the appropriate growth chart and plotting growth parameters; (2) obtaining a detailed medical history; (3) conducting a careful psychosocial history; (4) gathering a detailed dietary history; and (5) performing a physical examination (Goodwin et al., 2023; Kesari & Noel, 2023).

Growth Charts and Serial Measurements

Selecting an appropriate growth chart is essential in the forensic nursing evaluation of GF. According to the Centers for Disease Control and Prevention (CDC), a growth chart should complement the comprehensive evaluation and overall formation of a clinical impression, rather than being used as the sole diagnostic instrument (n.d.-b). The CDC (n.d.-b) recommends using the World Health Organization (WHO) growth charts for infants and toddlers aged 0-2 years in the U.S., including both breastfed and formula-fed infants.

The World Health Organization (WHO) offers the only internationally approved growth charts that accurately reflect cross-cultural anthropometric measurements, making them suitable for children of all races and nationalities (Duryea, 2022). Specialized charts are also available for preterm babies, infants from birth to 12 months, children aged 12 months to 5 years, and those aged 5 to 18 years. Additionally, there are specific charts for children with medically complex conditions, such as Spina Bifida and Down Syndrome (U.S. Department of Health and Human Services, Health Resources and Services Administration, n.d.).

FNs, general pediatric nurses, and nurse practitioners, such as those in public health settings, family practice, nurse family partnerships, or community clinics, are well-positioned to identify young children deviating from normal growth curves. Deviation refers to how a child's growth measurements (e.g., weight, recumbent length/height, or head circumference) differ from the average values for their age and sex, often expressed in percentiles or z-scores (CDC, n.d.-a). Growth concerns typically begin with a decrease in weight velocity, followed by a decrease in length/height velocity, and finally a decrease in head circumference, indicating more severe growth problems (Kiernan & Mascarenhas, 2023).

Medical History

When evaluating young patients with suspected GF, FNs should gather a detailed medical history to identify potential underlying medical causes of poor weight gain and prevent long-term sequelae (Vachani, 2018). The assessment should include a holistic workup of both parents and the child, covering past medical history, pregnancy and birth history, prior hospitalizations, surgeries, acute and chronic conditions, and medications including over the counter (OTC) medicines. If the mother is breastfeeding, inquire about her medications including OTC as well. Her medications may affect breast milk production. Lastly, it is crucial to gather facts about prenatal factors such as drug, alcohol, and tobacco exposure, as well as prematurity (Vachani, 2023; Zubler et al., 2022).

Family history questions should include the heights of parents and siblings to identify potential genetic or endocrine conditions, such as familial short stature, constitutional growth delay, or early onset of puberty (Grigoletto et al., 2021; Vachani, 2018). Asking about elimination patterns (e.g., diarrhea, constipation, vomiting, reflux, abnormal voiding) helps rule out underlying medical causes of GF (King & Duryea, 2024). Laboratory tests should also be considered, as suggested in Table 2.

Table 2.
Diagnostic Workup

Comprehensive metabolic panel	Stool for fat, ova/parasite and culture
Complete blood count with differential	Lead level
Thyroid function tests	Transglutaminase antibodies
Vitamin B12	Sweat chloride test
Growth hormone	Urinalysis
ESR	Urine culture
HIV screen	Developmental testing

Lastly, a developmental history of key milestones should be obtained. Developmental delays can both result from and increase vulnerability to GF, so a careful developmental

assessment using standardized surveillance tools (e.g., Ages and Stages Questionnaire) is essential (Vachani, 2023; Zubler et al., 2022).

Psychosocial History

Clinicians and researchers increasingly recognize poverty and social determinants of health as leading root causes of GF (Vachani, 2023). Therefore, the optimal forensic nursing assessment should include evaluating social factors affecting the holistic health of the entire family. Important details to consider include economic stability, access to healthcare, living in a food or medical desert, availability of nutritious food, and access to state or federally funded nutritional programs. Table 3 provides additional questions in the psychosocial history should cover parenting styles and expectations, parental competency in feeding and infant care, parental education levels, and overall family composition (Ajami et al., 2018; Homan, 2016; Vachani, 2023; Wijesunera et al., 2023). Determining whether the family receives benefits like Women Infant and Children (WIC) or Supplemental Nutrition Assistance Program (SNAP) services, and whether they have health insurance, will help the FN identify social needs and recommend appropriate services.

Table 3.
Psychosocial History Questions

With whom does the child live? Is the child visible in the community such as daycare?
Who are the caregivers who feed the child?
What signs do caregivers recognize when the child is hungry?
When and where are feeds offered?
Does the family eat together?
Is the child distracted while eating such watching TV?
Does the caregiver encourage eating?
Can the family afford nutrition?
Does the child have health insurance?
Does the child have access to WIC or SNAP?

Mental Health and Substance Misuse. Screening for mental health conditions, substance abuse disorders, and intimate partner violence are also relevant questions that should be asked in a supportive, non-judgmental manner. The United States Preventative Services Task Force, American Academy of Pediatrics, and the American College of Obstetricians and Gynecologists recommend screening all postpartum mothers for post-partum depression (PPD) (Maurer et al., 2018). Risk factors for "postpartum blues" and PPD include a history of depression prior to or during pregnancy, gestational diabetes, epidural anesthesia during delivery, and giving birth to a boy (Liu et al., 2022). Postpartum psychosis, although rare, is an extreme form of PPD that can be very risky for the mother and the baby (Zivoder et al., 2019). A screening tool for PPD is the Edinburgh Postnatal Depression Scale (EPDS). New fathers should also be screened for depression, because paternal depression is associated with maternal depression (Da Costa et al., 2019; Paulson & Bazemore, 2010). Fathers can be screened with the Patient Health Questionnaires (PHQ-2 and PHQ-9).

Substance Abuse and Domestic Violence. Screening for substance abuse and intimate partner violence can require skillful diplomacy. Some tools that can help identify these determinants include the CAGE questionnaire for alcohol abuse; the Drug Abuse Screening Test-10 (DAST-10) to assess for drug abuse and dependence; and the Hurt, Insult, Threaten, Scream

(HITS) for domestic violence. Community based interventions include referrals to home visiting agencies, such as Nurse-Family Partnerships, Women Infants and Children, support groups and other mental health therapy and programs.

Dietary History

A detailed dietary history is crucial to identify potential causes of GF. Caregivers should describe their feeding routines and provide a 24-hour dietary recall to estimate caloric intake. For follow-up visits, a diet log detailing date, time, food, amount eaten, type and amount of beverage, and pertinent events can be requested.

Additionally, caregivers should describe feeding behavior, such as feeding cues, cues to satiety, and the ability to suck, swallow, and chew. For bottle-fed infants, ensure the nipple size is appropriate. For breast-fed infants, assess pumping habits and feeding practices. As noted in the medical history, it is also important to ask breastfeeding mothers about medications, as some can decrease milk production, like antihistamines and other anticholinergics.

For formula-fed infants, inquire about feeding frequency, amount, and preparation details. In some cases, caregivers may dilute formulas (both powder and liquid) intentionally or unintentionally, which should be assessed (Harris et al., 2024; Smith et al., 2022; Vachani, 2018). Table 4 provides a checklist of questions for breastfeeding and formula-fed infants.

Table 4.
Feeding and Elimination Questions

Breastfeeding and Formula Feeding Questions	
Ask the caregiver how she/he/they feel(s) the feedings are going and if any issues are identified.	
Does the caregiver stop to burp the baby at least once during the feeding? Is there spit up, regurgitation, or vomiting?	
Does the baby sleep or fall asleep during feeds? If so, does the caregiver awaken the baby to finish?	
How often is the baby fed during the day? (How many hours between feedings?	
How often does the baby wake in the night to feed?	
Is the caregiver providing any other liquids to drink? Specifically ask about water, milk, juice, soda, tea and other low-calorie liquids.	
How many diapers per day is the child using? Ask about voiding including bowel movements.	
Breastfeeding	**Formula Feeding**
Is the mother taking any medication including OTC or drugs? If so, assess for L4 and L5 classes of medication that may either decrease her production or cause harm to the infant.	Have the parent demonstrate how to prepare a bottle of formula noting the form (powder, concentrate, ready to feed).
How many minutes is the baby spending on each breast? Usually 10-20 minutes per side is enough.	Is the caregiver able to calculate the math for powder form? Does the caregiver pour water in first, then the powder?
How many feedings is the baby getting in 24 hours?	Check the bottles and nipples. Does the formula come out of the nipples easily, or are the holes too small for the age of the infant?
Can the mother hear the baby swallowing?	Does the caregiver put other elements into the bottle such as rice cereal?
Is the mother pumping breast milk? If so, for how long and much does she get? Does she freeze extra milk?	Does the parent use state or federal resources such as WIC or SNAP?
Is the mother supplementing with formula or baby food/solids? See Formula Feeding Checklist.	Has the caregiver ever had to dilute formula “to make it last?”

When evaluating a young child who is eating solid foods, caregivers should be asked which foods the child eats and how the child has progressed to solids. It is important to inquire about any foods that have caused allergic reactions or discomfort, such as gastrointestinal upset, diarrhea, constipation, or skin reactions. Additionally, obtaining a history of daily juice intake or other beverages is vital, as excessive juice and low-calorie drinks are leading causes of failure to thrive, especially in toddlers (Heyman et al., 2017).

Physical Exam

The physical exam (Table 5) starts by observing the infant's or child's behaviors and interactions with caregivers (adapted from Hockenberry et al., 2024). This initial observation helps guide the rest of the exam.

Table 5.
Assessment of GF in Children ages 0-3 Years Old (adapted from Hockenberry et al, 2024)

Body System	What to Assess	Other Possible Contributing Factors to Abnormal Findings
General	Overall state of the child (hygiene, alertness, behavior); anthropometrics: weight, length or height, weight-for-length or BMI, head circumference	Poverty, sleep deprivation, hunger cues, parenting skills, thyroid disorders, growth hormone deficiency, diabetes
Neurological	Developmental milestones, muscle tone, reflexes, developmental delays	Cerebral palsy, neurodegenerative disorders, prenatal alcohol or drug exposure
HEENT	Infant fontanel, general dental/oral hygiene for the presence of caries or abscesses, mucous membranes, abnormalities of the mouth, lymph nodes and thyroid palpation.	Presence of cleft lip or palate, ankyloglossia (tongue-tie)
Respiratory	Breathing effort, oxygenation, signs of respiratory disease	Chronic lung disease, recurrent infections, environmental exposure (e.g., smoke)
Cardiovascular	Heart rate, murmurs, perfusion, cyanosis	Congenital heart disease, anemia, hypotension
Gastrointestinal	Distention or organomegaly, hepatosplenomegaly (such as in kwashiorkor)	Metabolic or genetic disorder, liver disease, cardiac issues, malignancies, infections, hemolytic anemias
Genitalia	Presence of precocious or ambiguous sexual development	Endocrine disorder
Musculoskeletal	Signs of dysmorphia Neck range of motion Mid upper arm circumference	Metabolic or genetic disorders, Possible torticollis (wryneck)
Skin	Rashes, skin turgor, color, wounds or injuries including patterns and scars, presence of scaly/hard/dry/cracked skin	Dehydration, overbathing, eczema, infections
Hair and Nails	Dullness, dryness, brittle hair Koilonychia “spoon nails”	Dehydration Iron deficiency
Psychosocial	Caregiver interaction, response to environment	Maternal depression, family stress, inadequate social support
Other	**What to Assess**	**Rationale**
Growth Charts with Serial Measurements	Growth charts from the primary care provider/pediatrician/community nurse or other specialists	Ensure the proper growth charts have been used
Serial Photographs of the Child	Obtain baseline and at follow up visits.	For comparison

Since growth problems can affect every system in the body, a thorough examination is crucial, including height/recumbent length, weight, BMI, and head circumference in children under 2 years old. Examine the posterior and anterior fontanelles in infants for size and position (sunken or bulging) and neurologic signs of developmental delay.

The FN should pay special attention to hair, mucous membranes, lymph nodes, and thyroid palpation. Assess impediments to feeding and swallowing, such as cleft lip or palate, by observing a feeding session and parent-child interaction. A thorough mouth examination can identify dental caries, oral abscesses, or enlargement of the tonsils, adenoids, or tongue. Check the abdomen for distention or organomegaly and the genitalia for signs of precocious or ambiguous sexual development or hepatosplenomegaly. The FN should note skin findings such as scaling, dryness, edema, alopecia, spoon-shaped nails, and bruises or other trauma evidence. The musculoskeletal assessment should evaluate dysmorphic features, neuromuscular tone, and loss of subcutaneous fat. Photographic documentation is helpful if permitted. Consult with an advanced practice provider (nurse practitioner, physician assistant, or physician) if the physical examination findings indicate the need for diagnostic studies (Table 2) or specialist referrals (Faugno et al., 2022; Smith et al., 2022; Vachani, 2023).

Appropriate Community Referrals by the Forensic Nurse

Community interventions should be the first-line treatment in cases of mild to moderate growth problems to support the caregivers in mitigating the short and long-term health consequences. Table 6 provides high caloric dense foods to recommend. Encourage the parent or guardian to offer young children options, which will empower the child to make a choice, but limited to the options. Should suggested behavior changes prove unsuccessful, specialist referrals may be necessary. Starting with a referral to a registered dietitian for individualized medical nutrition therapy is often helpful. Mothers who are breastfeeding may need the support of a lactation consultant. Other specialist services may include speech and language therapy for swallowing and/or occupational therapists for feeding support.

Table 6.
Foods that Increase Caloric Density for Young Children on Solids

Avocados
Eggs
Cheese
Nut and seed butters
Butter, margarine, oil,
Cream cheese, mayonnaise, sour cream
Salad dressings
Heavy whipping cream or half & half (added to whole milk)
Chicken potpies
Milk fortifiers such as Carnation Instant Breakfast ® or Ovaltine ®

Hospital admissions should be considered under some circumstances in consultation with the primary care provider, such as when community interventions are unavailable or ineffective (Peterson Lu et al., 2023). If the child continues to exhibit signs of GF, or the provider is still not able to identify the cause of the GF, a further workup can be explored. Enteral feeding is required when it is essential to avoid malnutrition or dehydration (Duryea, 2023). Hospitalization can also identify whether the poor weight gain is due to more intentional psychosocial determinants, such

as Munchausen Syndrome by Proxy. Once hospitalized, providers can not only monitor a child's behaviors and symptoms but can also offer the child a prescribed diet and track growth. *When a young child with GF gains weight successfully in a controlled environment, it strongly suggests an underlying modifiable cause, including child neglect.* During a hospital evaluation for GF, FNs should work closely with social workers and CPS staff to ensure there will be a safe discharge plan.

Conclusion

Forensic nurses (FNs) are in a unique position to identify modifiable causes of growth faltering and promote successful feeding behaviors. The FN should be competent in identifying potential root causes of GF starting with a comprehensive history and thorough exam. Early identification and strategies should be implemented to minimize malnutrition and associated detrimental health and social consequences. By asking the caregivers specific questions, the FN may be able to identify practical solutions for nutritional support and providing community referrals to address the challenges and ensure the child is growing at an acceptable rate. Should the forensic evaluation lead to concerns for neglect, CPS must be involved to ensure the young child is in a safe, nurturing environment with caregivers who are willing and able to provide adequate nutrition.

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Journal of the Academy of Forensic Nursing

Original Research

The Forensic Nurse's Response to Military Sexual Trauma Among LGBTQ Survivors

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Received: November 2024 Accepted: March 2025

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Abstract

Military sexual trauma (MST) is prevalent among U.S. armed services members despite efforts to combat it (Castro et al., 2015; Crosbie & Sass, 2017; Moyer, 2021). Reasons for the continued perpetuation of sexual assault in the U.S. armed services are multifaceted and embedded in the military culture. Passive acceptance of sexual violence and lingering effects of the Don't Ask, Don't Tell policy in the U.S. military are examples of areas where crucial reforms are still needed despite concerted efforts within the military and by the U.S. Congress to address MST (Congressional Research Service, 2021). Lesbian, gay, bisexual, transgender, queer, asexual, intersex, and other (LGBTQAI+) individuals may experience human violence at disproportionately higher rates ranging from verbal harassment and stalking to physical assault and sexual battery (Beckman, 2018; Blosnich, 2022; Moyer; Schuyler et al., 2020).

This integrative literature review explores best practices among forensic nurses (FNs) who engage in the care of sexual violence survivors, especially military personnel who identify as LGBTQAI+. Findings from a literature search through the Cumulative Index of Nursing and Allied Health Literature and PubMed databases for peer-reviewed articles from psychology, public health, medicine, nursing, and social science are discussed to inform FNs about the most effective strategies for responding therapeutically to MST survivors in the LGBTQIA+ community. We discuss understanding reasons MST survivors might not make a report to authorities, as well as providing empathetic, trauma-informed care, and screening survivors to link them with appropriate resources so they can begin a journey of healing.

Keywords: LGBTQ, sexual minority, military, sexual trauma, sexual assault, forensic nursing, integrative review.

The Forensic Nurse's Response to Military Sexual Trauma Among LGBTQ Survivors

Introduction to the Practice Issue

Sexual assault is one of the most devastating crimes inflicted upon an individual. Consequences of sexual assault can lead to an array of acute and chronic consequences for survivors (Bell et al., 2018; Blais et al., 2024; Castro et al., 2015; Cichowski et al., 2017; Parnell et al., 2018; Sigurdardottir & Halldorsdottir, 2021). Service members who experience military sexual trauma (MST) have higher rates of mental health disorders, substance abuse, and homelessness, among other serious detrimental consequences to their lives (Beckman et al., 2018; Olenick, Flowers & Diaz, 2015; Rosellini et al., 2017).

Sexual assault can involve anything from unwanted touching to penetrative sexual acts (Papp et al., 2023; U.S. Department of Veteran Affairs, 2021). Like sexual assault in the civilian setting, MST involves a wide range of unwanted sexual acts including verbal threats and intimidation, or physical activities such as fondling and assault (U.S. Department of Veteran Affairs, 2021). Sexual assault in the U.S. armed forces has been a pervasive and endemic historical problem, and MST was largely ignored for decades until scandals in the early 1990s prompted national outrage and subsequent actions (Crosbie & Sass, 2017; Moyer, 2021). Calls for urgent structural changes followed, including military reforms mandated by U.S. Congress (Crosbie & Sass, 2017; Congressional Research Service, 2021).

Review of the Literature Supporting Practice Changes

This integrative review presents findings from journal articles, peer-reviewed literature, and other resources, such as information published by the U.S. Department of Veteran Affairs and the Centers for Disease Control and Prevention about MST. Our focus was gaining a better understanding about what forensic nurses (FNs) should know to provide culturally sensitive and trauma-informed care for LGBTQ survivors of MST. For the purposes of this review, we defined MST as *any form* of unwanted sexual contact perpetrated upon an individual who is a member of the military or a veteran (Castro et al., 2015).

Reasons for a renewed focus on MST include the impact of the #MeToo movement, which has brought more sexual assault survivors forward from all walks of life (Sigurdardottir & Halldorsdottir, 2021; Worthen & Schleifer, 2024). Military reforms are having positive effects on reporting, thereby prompting more survivors to present for forensic nursing care (Congressional Research Service, 2021; Crosbie & Sass, 2017). Our literature search focused on MST survivors who identify as LGBTQ, as evidence indicates these individuals face disproportionately higher risks of interpersonal violence during their military service, including acute injuries from assault, sexually transmitted infections, and poor chronic physical and mental-health outcomes following sexual assault (Blosnich, 2022; Sigurvinsdottir & Ullman, 2015).

Methodology

The literature search was conducted between March and May 2024 using six databases: Cochrane, EBSCO Host (including the Cumulative Index to Nursing and Allied Health Literature), Elsevier Science Direct Journals, Gale Nursing and Allied Health, the Joanna Briggs Institute Evidence Based Practice Database, and PubMed. These databases were chosen by the two authors who are subject-matter experts in forensic nursing with terminal nursing degrees. The

search aimed to address the central question: *What is the scope and response to military sexual trauma (MST) among LGBTQ victims?* The strategy included selecting appropriate journals and searching for the keywords/subjects: (Military) AND (sexual assault) OR (sexual trauma) OR (sexual abuse). Search filters limited results to articles published between January 1, 2014, and March 1, 2024, in English, available in full-text, peer-reviewed scientific journals. Initially, the search identified 894 papers.

To refine the results, the Boolean operator AND (LGBTQ) was added. Further refinement, including duplicate removal and a focus on peer-reviewed sources, produced 269 results. Both authors reviewed the titles of the refined results, ultimately screening approximately 50 article titles and abstracts that aligned most closely with the aims of this manuscript. The final list of references read in detail by both authors included 35 articles and credible organizational websites with relevant resources for practicing forensic nurses (FNs).

Results

The literature review findings highlight the central concern of this article: Sexual trauma not only compounds the challenges of military service but also intensifies health consequences for survivors. These include severe depression, post-traumatic stress, increased suicide risk, reduced force readiness, and premature separation from military service (Beckman et al., 2018; Olenick, Flowers & Diaz, 2015; Rosellini et al., 2017). FNs play a vital role on the healthcare team, offering specialized care that helps MST survivors embark on a path toward holistic healing—encompassing physical, psychosocial, and spiritual recovery.

Precise prevalence rates of MST are unknown due to a long-standing pattern of low reporting rates among survivors, especially those in marginalized groups (Congressional Research Service, 2021; Mengeling et al., 2014). Conservative estimates of MST indicate prevalence rates are at least around 3.5% and 44.2% among all male and female military services members, respectively (Nichter et al., 2022). Approximately 1 in 3 women and 1 in 50 men respond affirmatively when asked by a VA medical provider if they have experienced MST (U.S. Department of Veteran Affairs, 2021). Female service members and veterans are especially at risk of psychological sequalae from MST that may lead to chronic unemployment, financial strain, and housing instability (Blais et al., 2024; Castro et al., 2015; Rosellini et al., 2017).

LGBTQ service members experience MST at disproportionately higher rates causing long-term personal, physical, and emotional consequences due to a broad spectrum of sexual violence (touching and non-touching) including verbal sexual harassment, unwanted touching (i.e., massaging, caressing, fondling), stalking, exploitation, and penetrative acts (penile-vaginal assault, forced oral sodomy, and forced anal sodomy) (Beckman et al., 2018; Blosnich, 2022; Gurung et al., 2018; Schuyler et al., 2020; Sigurvinsdottir & Ullman, 2015). LGBTQ veterans also experience significantly higher mental health disorders and suicidal behaviors (Beckman et al., 2018; Schuyler et al., 2020; Sigurvinsdottir & Ullman, 2015). Since we know MST reporting rates likely do not match reality (Beckman et al., 2018; Bell et al., 2018; Castro et al., 2015; Congressional Research Service, 2021), it is important for FNs to recognize the vital role in responding to MST survivors because (a) the disclosure itself can be therapeutic, and (b) the disclosure opens the door for the survivor to access trauma-related healthcare services.

Recommended Best Practices

Recognizing Reporting Barriers among MST Survivors

It is important for FNs on the front lines of an initial sexual violence disclosure to know reasons why delayed disclosures or non-reports are common after MST. Non-reporting in the military has historically been, and continues to be, a major issue, especially among those in marginalized groups. The "Don't Ask, Don't Tell" policy of the 1990s allowed gay individuals to serve in the U.S. military if they did not talk openly about their sexual orientation (Johnson et al., 2015). The lingering effects of the "Don't Ask, Don't Tell" era, combined with the military's hypermasculine and homophobic "band of brothers" culture, continue to create significant barriers for MST survivors in reporting their experiences (Johnson et al., 2015; Mackenzie, 2020).

LGBTQ victims often face valid concerns about breaches of confidentiality, mistreatment by peers, and potential harm to their careers if they come forward. These systemic issues highlight the urgent need for cultural change within the military to ensure a safe and supportive environment for all service members (Kuhl, 2018; Mackenzie, 2020; Mengeling et al., 2014; Rosselini et al., 2017). Moreover, the frequent relocation of offending military service members also impedes detection of patterns of violence, and only around 10% or fewer MST offenders are convicted (Castro et al., 2015).

Using Trauma Informed Care Principles with MST Survivors

FNs are key providers in assuring sexual violence survivors receive the highest level of trauma-informed care and addressing survivors' risks of adverse health sequelae after sexual trauma, including suicide and substance use disorder. Suicide is a major potential health threat for anyone who has survived MST (Blais et al., 2024; Gilmore et al., 2020). FNs are also important advocates who can honor MST survivors' military service, respond sensitively to their experiences of trauma, use relevant screening tools, and make timely referrals for physical, mental health, psychosocial, and spiritual support.

Trauma-informed care (TIC) emphasizes active listening and being fully present with a survivor, who may recall bits and pieces of the traumatic event over time (Caiola, 2021). FNs who use TIC principles work closely with survivors to validate their experiences of trauma. Over time, TIC can reduce painful emotions, numbness, difficulties with attention, concentration, and memory, relationship problems, and substance abuse, which are all too common among MST survivors (Palmieri & Valentine, 2021; Romaniuk & Loue, 2017; U.S. Department of Veteran Affairs, 2021).

Physical Health Screening among MST Survivors

MST survivors often have a range of physical concerns and chronic health challenges. Although some survivors have little or no obvious symptoms, others experience tremendous emotional, physical, and psychosocial suffering for months to years after the experience of sexual violence (U.S. Department of Veteran Affairs, 2021). Common physical complaints after MST include chronic fatigue, recurrent headaches, fibromyalgia, joint discomfort, lumbago, painful intercourse, and gastrointestinal disorders such as irritable-bowel symptoms and anorexia (Castro et al., 2015; Cichowski et al., 2017). It is critical for the FN to be aware of the common presenting complaints among sexual-assault survivors, including acute issues like sexually transmitted infections, unintended pregnancy/pregnancy fears, genital injuries, signs of choking, and other bodily harm (Luong, Parkin & Cunningham, 2022). Appendix A includes some common somatic

complaints that may be experienced by or reported among MST or other sexual-violence survivors (Cichowski et al., 2017).

Mental Health Screening among MST Survivors

Mental-health conditions are a common result after MST, especially among groups who are already marginalized and among veterans, who have higher rates of depressive disorders, anxiety, and suicidal ideations compared with the general population (Olenick, Flowers & Diaz, 2015; Parnell et al., 2018; Rosellini et al., 2017). Post-traumatic stress disorder (PTSD) after MST is likely to be more severe among survivors of prior violence before they entered the military, such as those with histories of childhood abuse (Beckman et al., 2018; Cichowski et al., 2017; U.S. Department of Veteran Affairs, 2021).

MST survivors with PTSD often experience co-morbidities like alcoholism, substance-use disorders, toxic stress, family relationship conflict, and sexual dysfunction (Blais et al., 2024; Gilmore et al., 2020). The typical signs of PTSD include, but are not limited to, trouble sleeping, attention problems, hypervigilance, and sexual disorders (U.S. Department of Veteran Affairs, 2021). MST survivors with PTSD are at high risk of suicide, and many other types of physical and psychological sequelae (Blais et al., 2024; Parnell, 2018).

Suicide is a particularly grave concern for MST survivors which FNs must recognize early and provide safety planning as soon as possible (Blais et al., 2024; Gilmore et al., 2020). The factors that increase suicide risk most are acute stressors, previous hospitalizations, and homelessness (Gilmore et al., 2020). Universal screening for PTSD, MST, depression, and prior sexual trauma during childhood is recommended as a best practice by the National Center for Posttraumatic Stress Disorder, the Walter Reed Medical Center, and the Veterans Millennium Health Care Act of 1999 (Romaniuk & Loue, 2017). Use of a PHQ-9 questionnaire is a useful screening tool for depression, suicidal ideation, and suicidal behaviors (Gilmore et al., 2020). See Appendices B & C for other recommended screening tools and resources for FNs.

Screening MST Survivors for Other Forms of Human Violence

When a survivor discloses MST, it is important for the FN to assess for current and past intimate partner violence, previous childhood maltreatment—including exposure to intimate partner violence as a child and child neglect—as all these experiences are linked to poor adult physical and mental-health outcomes (Centers for Disease Control and Prevention [CDC], 2024).

Screening for Adverse Childhood Experiences (ACEs) is a recommended best practice by the CDC. In the setting of MST, a prior history of trauma as a child or adolescent—which is particularly a concern if the younger person "came out" during their youth and suffered adverse consequences as a result—can be one of the major factors affecting how much the MST survivor is affected and to what degree they experience difficulties (U.S. Department of Veteran Affairs, 2021). Higher ACE scores can reliably predict risk of negative psychological outcomes after sexual assault (CDC, 2024; Parnell, 2018).

Implications for Forensic Nursing Practice Implementation

Helpful Tools and Resources for FNs

Due to the high prevalence of sexual violence, universal screening of all active-duty service members and veterans for MST is recommended as a best practice (Romaniuk & Loue, 2017). Universal screening not only encourages disclosures by survivors who might otherwise

remain silent about their trauma, but screening also tends to normalize the experience. Many tools exist to equip FNs, such as the CDC materials on ACEs and training materials from the U.S. Department of Veteran Affairs (VA). Survivors can access VA services by contacting their local VA facility or by accessing online MST-related services offered by the VA. Appendices B and C include some suggested screening questions adapted from a VA Fact Sheet on MST which are useful for clinicians who work with service members and veterans, as well as some online resources for FNs and other clinicians (U.S. Department of Veteran Affairs, 2021). Everyone, regardless of background, should be screened for past or ongoing sexual violence. Special emphasis should be placed on conducting non-judgmental, empathetic interviews of LGBTQ persons for past experiences with sexual violence, as they may have already experienced high rates of heterosexism, stigmatization, and homophobia (Johnson et al., 2015).

MST survivors often face challenges in leaving military healthcare, such as limited insurance options beyond Tricare or concerns about stigmatization. Fortunately, many civilian resources are available to support them. These include locally accessible services such as community health centers, rape-crisis agencies, legal and advocacy assistance through state attorney's offices, and public health departments. Many of these facilities benefit from external funding, allowing them to offer services to victims without requiring payment or insurance billing. Additionally, the National Sexual Violence Resource Center (NSVRC) provides a wide array of online resources tailored for MST survivors and healthcare providers, including forensic nurses (FNs) (National Sexual Violence Resource Center, n.d., a). The NSVRC also offers resources for specific populations, such as LGBTQ survivors, ensuring inclusive and comprehensive support (National Sexual Violence Resource Center, n.d., b). Some suggested online resources are in Appendix D.

Based on the literature, we propose incorporating the following elements in every FN clinical encounter with a military service member or veteran:

- Universal screening for MST
- Assessment of Adverse Childhood Experiences (ACEs) (Centers for Disease Control and Prevention [CDC], 2024)
- Screening for post-traumatic stress symptomatology and referring those with suspected PTSD to a physician or other treating provider
- Assessment of current or past intimate partner violence (IPV)
- Drugs/substance-use disorder assessment
- Suicide risk assessment

Appendix C includes a mnemonic device (CUPIDS) we suggest that is useful for recalling the necessary elements that should be screened in a healthcare encounter with an active-duty service member or veteran.

Concluding the Visit with a Survivor: Support, Belief, and Reassurance

Sexual-assault survivors of all ages need the utmost degree of empathy when they enter a therapeutic setting, whether the care is delivered at a VA facility, civilian clinic, hospital emergency department, or other healthcare environment. Cultural sensitivity and active listening skills are critical during the healthcare encounter. When survivors are not recognized, their experiences are not validated, and they may leave a healthcare encounter feeling dismissed

instead of helped. FNs should make every effort to make MST survivors know they are heard and believed. They should tell survivors the abuse was not their fault, regardless of the circumstances. Every effort should be made to ensure survivors begin the healing process, and this can start with their first positive encounter with a skilled, caring FN who can minimize any shame or guilt and provide ongoing support.

Summary

The care of LGBTQ individuals by FNs after sexual violence in the military is enhanced by trauma-informed care, appropriate screening, and referrals, such as for ongoing psychological support (Johnson et al., 2015; Romaniuk & Loue, 2017). When encountering a survivor of MST, it is critical for the FN to assess for PTSD symptomatology and suicidality and make appropriate referrals to a mental-health counselor, psychologist, and/or trauma specialist as quickly as possible to prevent any adverse health consequences, including death from suicide. Social workers may be needed to develop safety plans for real-time safety concerns, and law enforcement may also need to become involved in certain circumstances when a survivor is in immediate danger or may have vulnerable individuals under their care.

The larger question at the root of this problem is how to reform military leadership from the top down. Training military personnel, especially commanding officers, and reforming the culture that accepts pervasive military sexual violence, denies the problem exists, covers it up, or blames the victims, are necessary steps. Continued congressional oversight is needed to ensure high-ranking military commanders are held accountable for inaction or passive acceptance of sexual violence. The Congressional Research Service has published detailed guidelines to prevent MST and to improve responses when it occurs (Congressional Research Service, 2021). Some suggestions are to:

- Incorporate evidence-based training programs such as those aimed at reducing rape myth acceptance into high-school curriculum and at multiple points throughout military service.
- Work to change the culture of acceptance of sexual violence.
- Diversify leadership within the military to include more women and minorities and/or those with diverse backgrounds.

Future research directions should be aimed toward an even better understanding of how those with marginalized gender and sexual identities can be more supported in the military structure. Evidence suggests that those with multiple, marginalized identities, such as those from racial and gender/sexual minority groups, have even worse outcomes than many other survivors (Sigurvisndottir & Ullman, 2015).

MST is a problem that has persisted in the U.S. armed forces over many decades (Castro et al., 2015; Congressional Research Service, 2021). It must be stopped through broad, comprehensive tools including concerted efforts at multiple layers within the military structure and in the civilian setting, including outside supervision/surveillance and better commanding officer accountability (Castro et al., 2015; Congressional Research Service, 2021). Oversight and accountability are both essential to protect those who dedicate their lives to the service of their country and who deserve the utmost respect, protection, and care.

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Appendix A

Common Somatic Complaints & Presenting Symptoms among MST Survivors

- Headache
- Signs of sexually transmitted infections
- Generalized anxiety
- Fibromyalgia
- Joint pain
- Low back pain/lumbago
- Irritable bowel symptoms
- Painful intercourse

Cichowski, S.B., Rogers, R.G., Clark, E.A., Murata, E., Murata, A. & Murata, G. (2017). Military sexual trauma in female veterans is associated with chronic pain conditions. *Military Medicine, 182*(9): e1895-e1899. https://doi.org/10.7205/MILMED-D-16-00393.

Appendix B

Suggested Clinician Screening Questions for All Service Members and Veterans

During your time in the military:

- Have you ever been pressured into sexual activity?
- Have you ever had sexual contact or activities without your consent, including while asleep or intoxicated?
- Have you ever been overpowered or physically forced to have sex?
- Have you ever been touched or grabbed in a way that made you feel uncomfortable?
- Has anyone made comments about your body or sexual activities that made you feel threatened?
- Has anyone made any advances that you found threatening?

Source: U.S. Department of Veteran Affairs. (May, 2021). *VA Cares about Military Sexual Trauma. MST Fact Sheet.* https://www.mentalhealth.va.gov/docs/mst_general_factsheet.pdf

Appendix C

"CUPIDS" Screening

C - Screen for adverse **C**hildhood experiences

U - Universal screening for all forms of sexual violence (past or present)

P - **P**ost-Traumatic Stress Disorder

I - **I**ntimate partner violence (past or present)

D - **D**rugs/**D**epression

S - **S**uicide risk assessment

Appendix D

Online Resources

- "Adverse Childhood Experience Questionnaire for Adults" developed by the California Surgeon General's Clinical Advisory Committee. This quick, ten-item questionnaire is a practical tool to use when assessing a new or existing client: https://www.acesaware.org/wp-content/uploads/2022/07/ACE-Questionnaire-for-Adults-Identified-English-rev.7.26.22.pdf
- ACEs tools on the CDC website: https://www.cdc.gov/aces/communication-resources/index.html
- VA resources/websites: www.mentalhealth.va.gov/msthome.asp, or http://maketheconnection.net/conditions/military-sexual-trauma
- National Sexual Violence Resource Center (n.d., a.). Military Sexual Trauma Resource List: https://www.nsvrc.org/blogs/military-sexual-trauma-resource-list?form=MG0AV3
- National Sexual Violence Resource Center (n.d., b.). Response to LGBTQ Victims Resources: https://www.nsvrc.org/sarts/toolkit/6-8

Journal of the Academy of Forensic Nursing

Case Study

Then and Now: Thirty Years Through the Eyes of Patients Who Have Experienced Rape

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Received: February 2025 Accepted: March 2025

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Abstract

The number of sexual assault nurse examiner programs have grown dramatically over the last 30 years. There are some processes and approaches that have changed very little over the years. However, there are others that didn't even exist that long ago and have made significant advances in the care of patients that have been raped.

Keywords: sexual assault, forensic nursing

Then and Now: Thirty Years Through the Eyes of Patients Who Have Experienced Rape

The patient's name is Angie. At the time, she was 24 years old and could be your daughter, mother, sister, friend, or neighbor. Angie was returning home one summer evening after spending some vacation time in a nearby state with her family. As she was driving home, two men spotted her, followed her, and rammed her car until it was forced off the road. Then they abducted Angie. She was robbed and repeatedly raped, vaginally, anally, and orally by these two men. Later, they picked up a third man and went to a motel where he too raped her. Two of the assailants insisted on food and money. Angie was forced to direct them to her home where she fixed sandwiches and wrote them a check which she told them they could cash at a nearby convenience store. They wanted her to call the store to authorize cashing these checks. Instead, she dialed the operator and left the phone off the hook to allow their conversation to be overheard. The operator determined something was wrong and called the police. When Angie heard the police at her house, she ran out. When she arrived at the hospital, she was numb and disoriented after her multi-hour ordeal.

Before this midwestern community had a SANE program, Angie would have been taken by police to one of four city hospital emergency rooms where she would have been made to wait up to 12 hours in a public setting with a police officer until more pressing and urgent medical emergencies were taken care of. While she waited, she would not be able to drink anything, shower, change her clothes, or go to the bathroom. Instead, because there was a SANE program, Angie was taken to a private suite of rooms at one specific hospital designated and equipped only for forensic medical exams. In the past, the emergency department physician was reluctant to perform this exam because of the time involved and the possibility that later he or she would be required to testify in court which would necessitate even more time away from emergency practice. Instead, in the SANE room at this location, she was met by a sexual assault nurse examiner who was there waiting to meet Angie as soon as she arrived.

Prior to the SANE program, emergency department staff were trained on a "hit or miss basis". The quality of forensic evidence was not consistently good. Nurses interested in care of the sexual-assault patient attended a course, prepared and presented by experienced SANEs, physicians, police, prosecutors, laboratory personnel, and rape-crisis personnel, followed by clinical experiences. The community police department reported a vast improvement in the quality of evidence collected since the nurses started performing the sexual assault exams. The step-by-step evidence collection process was quite involved. In the earlier setting the emergency department nurse would perform one part of the exam, and the physician would perform others, requiring the patient to repeat what happened again and again. Often it was necessary to collect clothing and shoes as evidence and the victim went home clad only in whatever the hospital could scrounge up. In Angie's case, the entire exam was done by this specially educated, registered nurse. There was a closet equipped with new clothing for her to wear home.

The victim/patient of the past would have received a bill ranging from $300–600. Angie was never admitted as a patient, although the emergency department was nearby in case she needed that level of treatment, so she was never billed for the examination and medications. At the time Angie's exam was performed with the SANE program, the total cost was $150 and was paid by the state Crime Victims Compensation Fund that had been established in 1988 through the Victims of Crime Act 1984 (Ames, 2024).

Prior to the development of the SANE program, the responding officer would be delayed from returning to the field. He could not leave the victim until the exam was completed and he had the rape exam collection kit in hand to preserve the chain of evidence. When Angie was brought in, the officer waited in an area specifically set up to prepare his report while the exam was done. The amount of time until the officer was back in operation decreased from 12 hours to an average of about three. Thirty years later, this is still the amount of time required to provide what these patients deserve—a thorough, compassionate exam that includes a history of the event as well as medical history, a full head-to-to-toe assessment, evidence collection, photography, medication administration, safety planning, and discharge instruction.

Since the mid-1970s when rape-crisis advocates were dispatched to hospitals to provide emotional support to victims, it was often nearly impossible due to the chaotic setting of the emergency department. Many times, the victims simply gave up and walked away. A rape crisis advocate is part of the team that was dispatched to meet Angie in the SANE room. The support provided by a rape crisis advocate immediately following this traumatic experience helped Angie regain a sense of control in a situation where she had absolutely no control. At the time, Angie

was one of about 250 rape victims who were examined each year in that city alone. In the United States at the time, *Rape in America: Report to the Nation* estimated there were 683,000 individuals who could benefit from a program such as SANE. (OVC). Today, the exact number depends upon the resource used, and what they count in their data. This can be seen in the following examples of rates of rape: FBI 139,815; RAINN 463,634); and NSVRC 734,630. What we can conclude is that there has been some change, but not nearly enough. Angie was referred to the counselling services of the local rape advocacy program.

Two of Angie's assailants were apprehended immediately and later tried and convicted of rape and other crimes. Their sentences totaled over 1,000 years. This penalty was handed down before changes in the state law that now says a life sentence is 45 years. The third suspect was identified, and evidence was collected, but due to the techniques used at the time, not enough information was available to arrest him and eventually the statute of limitations ran out. Today, the techniques used in analysis make it easier to collect, are much more sensitive, and faster to analyze. The statute of limitations has changed so there are none if the case involves DNA evidence that can establish the identity of the perpetrator in the future.

Nurses in this program initially spent many hours in team-building activities to become a close, trusting, and supportive group. The skills that each individual brought to the unit varied from school nurse to critical care nurse, to ED nurse, to health department nurse, to educator, and each were willing to share their knowledge with the others to develop new knowledge and skills. Thirty years later, some of the nurses are still with the program and have completed 700–1,700 exams each, making this a highly skilled group of forensic nurses. From the evidence collection perspective, this became evident in serial rapist cases. Over the course of the serial offender's terror, it didn't matter which nurse was on call—evidence was collected that linked them to the other cases and they were ultimately prosecuted.

Early in the program development, the nurses not only developed relationships with each other but also with advocacy and law enforcement. There had always been tension between advocacy and law enforcement. The nurses were able to bridge the culture gap that existed between the two groups. It took some time but eventually everyone worked collaboratively and many of the issues that originally existed in group dynamics went away.

It was imperative that the program stay abreast of new developments in technology, research, medical treatment and program options. In the past, an exam was done if reported within 72 hours. Now that time has been expanded to 120 hours or more, because of the changes in DNA analysis and medical treatment. Laws have changed. Prior to and during the period that Angie was examined, state law required mandatory reporting to law enforcement. Most communities now offer forensic examinations anonymously for those individuals who are over the age of 18 and competent without law enforcement involvement until the patient wants their involvement. This valuable change in law allowed individuals who had a variety of reasons not to want law enforcement involvement to receive medical treatment.

Angie was offered pregnancy testing and emergency contraception. She was offered STI treatment for gonorrhea and chlamydia which was the standard at the time. A follow-up phone call was made about three days after her assault and a follow-up exam was available two weeks after the initial medical-forensic exam to document healing and identify any issues she might be experiencing and referrals made. As the years went by and recommended practices changed, so did the medical protocols of this program. One major change was the assessment and beginning

treatment for HIV. Post-exposure prophylaxis (PEP) is started at the time of the exam and referral is made to a local agency for follow-up treatment. In the past, this program was funded primarily by community support and victim compensation. Many community programs are now funded by federal grants such as the Violence Against Women Act (VAWA) (National Center for Victims of Crime, 1999) and the Victims of Crime Act (VOCA). VAWA legislation has been enacted that addresses requirements for states that receive VAWA monies. Examples of these conditions include not requiring victims to bear the costs for criminal charges and protection orders in cases of domestic violence, dating violence, sexual assault, or stalking. Additional requirements include that survivors of violence cannot be denied assistance, evicted, or have assistance terminated due to their victim status.

Sexual assault kit analysis has changed over the years. Prior to Angie's case, DNA wasn't routinely analyzed since it was new, evolving technology, and did not become standard until a few years later. The ABO blood group system was the primary method used for identifying individuals and involved the collection of blood and saliva samples at the time of the exam and additionally from the suspect. It provided limited data and often was of little benefit to the investigation. DNA analysis became a more reliable way to link a victim to a suspect through the collection of semen, saliva, skin cells, and blood collected at the time of the exam.

Angie's kit was analyzed, but for many other rape victims the kits were never even looked at. They sat on shelves in law enforcement property rooms. At the time, no analysis was done unless there was a suspect, and a blood sample was obtained from that suspect. That changed with the development of the Combined DNA Index System (CODIS) in 1998. Comparison of DNA profiles are used to not only link a suspect to a victim, but to link to other serial crimes, and today it is also used to identify missing persons. A recent example of how this system works was realized when a kit that had been collected in 1999 was tested as part of an untested kit initiative and matched in CODIS to the offender. After all the appropriate steps were taken, the case was taken to trial. To address the problem of the untested kits, the state established the Sexual Assault Kit Initiative in 2017. Over the next few years, all kits that had not been tested were identified and a plan and process for testing and investigation was developed. Now, when a kit is opened and collected it is tracked through a system that identifies where it is all through the process. At the time of the exam, the patient is given a brochure that explains to them that they can check a particular website and see where the kit is and what is being done with it.

This program has never used age as the guideline for adult or child exams. If girls have started a period or if boys are developing body hair, they are post-pubescent and will be examined by adult and adolescent examiners. In 1997, the SANE program expanded to include prepubescent children. Between 1991 and 1997, children continued to be taken to local emergency rooms and were examined by whatever nurse and doctor was assigned. Just as before the SANE program, it was reported that these individuals had little education in forensic medical child exams. The Child Advocacy Network (CAN) was incorporated in 1988 and was the first of its kind in the state. The mission was and continues to include the coordination and comprehensive response to child abuse which fosters hope and healing for all. When the child program began for acutely assaulted children using the guideline of the previous 72 hours, a pediatric course was developed and presented. Policies and procedures were developed and from that point forward prepubescent children were seen in the same area as adult and adolescent patients. A few months into this change, a local detective made the comment that in all the children he had observed in the emergency department they were almost always crying. He went

on to say that in this setting he had not observed even one child crying. He said they came out of that room smiling.

The SANE program and CAN work collaboratively to provide safe, nurturing, and child-centered care. CAN provides physician or advanced-practice care and follow-up of the children seen by the pediatric SANE program.

A few years after the addition of the pediatric SANE program, this community expanded into another area of forensic practice. The title of the program changed from SANE program to Forensic Nursing Services. A drug-endangered children program was added because of the large number of active methamphetamine labs in the community. The same nurses who were seeing the pediatric population augmented their education specific to this population of children. When children were discovered living in methamphetamine manufacturing environments, they were brought to the SANE exam area and evaluated for issues of abuse, neglect, and exposure to drugs and chemicals. The response was a collaborative response by the nurses, child protective services staff, and law enforcement.

Further expansion added intimate partner violence exams to their skills. This role coincided with the opening of one of the first Family Justice Centers in the country. The majority of these patients are now seen in the local Family Safety Center, but the nurses also respond to hospitals when a forensic examination is needed. The program sees three to four times more IPV patients than SANE patients.

The nurse did testify in Angie's case. Early in the program, nurses rarely were called to testify. Today, the nurses regularly receive subpoenas and testify. In the courtroom, the nurse is an objective professional with information that educates the jury.

Many changes have been made over the years that have allowed this program to stay strong, healthy, and grow into other forensic nursing areas. The primary role of the nurse in this program has always been the care of the patient. Although terminology has been added to include trauma-informed and evidence-based concepts, the philosophy which this program has had since the beginning has always placed the patient as the focus of everything that was done. Virginia Lynch visited the program in the second year of operation and instilled into the nurses that the care of these patients must include genuine compassion when they are suffering, safety when they are afraid, trust when they need to be believed, high regard when they feel vulnerable, and confidence that they are not to blame. This ideology continues today, with the goal of putting these patients on a path to healing.

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Journal of the Academy of Forensic Nursing

Research Reviews

AFN Journal Club Winter-Spring Reviews

Christine Foote-Lucero, MSN, RN, CEN, SANE-A, SANE-P, AFN-C, DF-AFN

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AFN Journal Club Winter-Spring Reviews

The AFN Journal Club meets regularly to review the quality of the evidence available to support our clinical practice. This is a core requirement of professional practice.

AFN Journal Review Criteria

- Evidence tables are for the review of studies that may have implications for clinical practice.
- All articles on this table have been reviewed by the AFN Journal Club.
- Abbreviations are listed in the legend following the reviews.

Melnyk Levels of Evidence (Melnyk & Fineout-Overholt, 2015)

- **Level 1 -** Systematic review & meta-analysis of randomized controlled trials; clinical guidelines based on systematic reviews or meta-analyses
- **Level 2 -** One or more randomized controlled trials
- **Level 3 -** Controlled trial (no randomization)
- **Level 4 -** Case-control or cohort study; correlation design; examines relationships
- **Level 5 -** Systematic review of descriptive & qualitative studies
- **Level 6 -** Single descriptive or qualitative study; does not examine relationships
- **Level 7 -** Expert opinion

Legend

NFS= *Nonfatal Strangulation*; IPV= *Intimate Partner Violence*; DA= *Danger Assessment*; EHR= *Electronic Health Record*; PVS= *Partner Violence Screening*; SA=*Sexual Assault*; LE=*Law Enforcement*; RR= *Risk Ratio*; CI= *Confidence Interval*; TBD= *Toluidine Blue Dye*; FN=*Forensic Nurse*

Completed Reviews

Marr, R., Bugeja, L. Hyoid fracture: consensual sex-play or non-consensual nonfatal strangulation: a case report. Int J Legal Med (2024). https://doi.org/10.1007/s00414-024-03353-6

Study Description/Background The issue of strangulation, consensual and non-consensual, as part of sex acts is important as the "rough sex gone wrong" defense has been used in cases of women being killed by strangulation by intimate partners in multiple cases. There is a paucity of literature examining the incidence of diverse and "rough" sex behaviors including sex-related strangulation and bondage & discipline, domination & submission, and sadism & masochism. The true incidence of hyoid fracture in the context of NFS is not known, though there is a wide range reported in studies on fatal strangulation. This article is a case review where consensual and non-consensual NFS has occurred in a woman who presents with a hyoid fracture.

Literature Review 44 references; 16 were within 5 years; all pertained to subject matter. Many references outdated but likely due to gaps in literature.

Design/Methods N/A – Case review

Sample One case study: 30s female involving manual NFS that was thought to be a more likely mechanism than consensual wearing of a sex-collar; ultimately the similar timeframes of the collar-wearing and the non-consensual manual NFS resulted in the accused not being convicted of strangulation.

Analysis No formal analysis for data collection, but the authors did a thorough job of summarizing available literature on the topic, to include findings of hyoid bone fractures in nonconsensual strangulations (both ligature and manual), as well as discussion of articles highlighting sex play and strangulation. Authors acknowledged that there are no specific cases reported of consensual strangulation causing a hyoid fracture.

Results/Limitations In this case study, accused was not convicted due to confusion among timeline of consensual and nonconsensual acts, that both took place over timeframe. In addition, patient was seen by primary care provider during the timeline spanning multiple strangulation events, but no imaging was done, so unclear if patient already had hyoid bone fracture at that time. Further studies regarding injuries that result from consensual sex play, particularly strangulation, are required to assist clinical forensic

practitioners when giving evidence about cases of strangulation; however, most patients involved in consensual sex play do not seek help, so numbers of patients who sustain hyoid fracture from nonconsensual strangulation dominate the literature. One single case study is not generalizable; case study was from Australia, so demographics and location not generalizable. The legal outcome of this case may also not be generalizable to potential legal outcomes in other areas of the world.

Clinical Significance It is important that healthcare professionals are well educated as to the assessment, investigation, and management of NFS so that injuries can be diagnosed, documented, and managed in a timely manner. The absence of robust documentation of injuries, as seen in this case review, makes it difficult to provide an opinion about injuries potentially caused by other relevant physical assaults. These factors are also important given timing of injuries can be highly relevant from a legal perspective. Other forms of blunt trauma besides strangulation, such as blows, kicks, being thrown or jumped on, and bites should be well documented. Where blunt trauma to other parts of the body occurs, significant visible injuries may suggest that a co-existing hyoid fracture was inflicted rather than accidental. For example, the presence of blunt or sharp force related injuries localized to the forearms and hands may be suggestive that a person has attempted to defend themselves from an assault. Drilling down timelines of onset of symptomatology and injury findings are particularly helpful when patient endorses multiple assaults/strangulation or even sexual play acts over the course of the acute window when the clinician is attributing certain findings/symptoms to specific events.

Level of Evidence 4

Lenert, L., Rheingold, A. A., Simpson, K. N., Dmitry Scherbakov, Aiken, M., Hahn, C., McCauley, J. L., Ennis, N., & Diaz, V. A. (2024). Electronic Health Record–Based Screening for Intimate Partner Violence. JAMA Network Open, 7(8), e2425070–e2425070. https://doi.org/10.1001/jamanetworkopen.2024.25070

Study Description/Background IPV is a significant public health problem, with a 5.9% annual rate of IPV reported among women in the U.S. and a lifetime prevalence reported to be 25% of all women. Screening in primary care is recommended by the U.S. Preventive Service Task Force but is conducted less frequently than screening for other health conditions such as depression. A lack of expertise by primary care professionals in assessing risk, time constraints, and difficulty linking patients with needed resources may also pose significant barriers for clinicians in the screening processes. The aim of this study was to assess the effect of an EHR-based multifactorial intervention screening on the detection of IPV risk in primary care practice. The present study includes implementation of an IPV screening workflow consisting of four major components: (1) a non-interruptive alert for annual IPV screening; (2) PVS confidential self-report; (3) patient risk screening with the DA; and (4) clinician confidential documentation of screening results, brief intervention, and patient referral.

Literature Review 22 references; 8 within 5 years; would have preferred more contemporary articles from forensic nursing specific journals

Design/Methods Randomized stepped-wedge clinical trial conducted from October 6, 2020, to March 31, 2023. MA/RN performed initial screening; if positive, would trigger a kiosk-like mode on exam room computer for patients to self-administer PVS questionnaire; if positive, would trigger RN to complete DA, which is an additional questionnaire administered to assess risk levels of future harm; IRB waived.

Sample Female patients aged 18–49 (focus on child-bearing age) in South Carolina presenting to 15 primary medicine clinics, resulting in a total of 34,157 visits. During the study period, 17,433 patients triggered a nurse-led screening and of those, 8,895 were also assigned the patient-administered PVS. Majority of females were white (65.3%) with mean age of 34.1 years.

Analysis Descriptive demographic characteristics included in tables; statistical analysis for all outcomes was performed using R, version 4.3.1 (R Project for Statistical Computing) and the MASS package for mixed effects models. All P values were from two-sided tests. Separate regression analysis to estimate how demographic variables and visit type affected the probability of a positive screening result.

Results/Limitations The triggering of a non-interruptive screening alert had important effects on the overall rate of screening for IPV, increasing the rate of screening using either method from 45.2% to 65.3%. Only 9 of 17,433 patients were identified as being at risk for IPV using the baseline nurse-led screener, while 130 of 8,895 patients reported past-year IPV with the PVS questionnaire. Patients who were older, single, from racial and ethnic minority groups, or had public U.S. insurance (Medicare/Medicaid) were screened less frequently. Limitations include bias from clinic staff with voluntary approach to initial/baseline screen (unclear how the staff were trained to suspect abuse); interruptions from COVID-19 pandemic; nongeneralizable population (mostly white females in one area of the country); no nurse authors or forensic nurse authors with expertise in the arena of IPV; missed opportunity for underserved patients at risk of IPV who don't have insurance and/or would not present to a family medicine clinic, such as patients presenting to an emergency-department setting.

Clinical Significance Combination of privacy-preserving procedures and non-interruptive alerting may allow for increased screening rates and sensitivity when screening for IPV.

Level of Evidence Level 6

Crawford LS, Downing NR, Famurewa AD, Markowitz JR, Han G. Genital lacerations following sexual assault and consensual sexual intercourse: A systematic review and meta-analysis. *J Forensic Sci.* 2024 Nov 20. doi: 10.1111/1556-4029.15666.

Study Description/Background SA involving penetration of the vagina can cause genital injury. In addition to health risks, documentation of the presence of these injuries may impact the willingness of victims to report sexual assault, the likelihood LE will investigate and may have evidentiary value in the prosecution of these crimes. The purpose of this meta-analysis was to compare the presence of external genital lacerations in persons with vulvas reporting consensual versus non-consensual vaginal penetration.

Literature Review 35 references, all pertain to subject matter or to provide context to background; only 12 references within 5-year mark but there is a gap in the literature with significant heterogeneity among the research.

Design/Methods A systematic search was conducted with the assistance of a medical sciences librarian. The databases searched included Web of Science, PubMed, and CINAHL. The search did not include date restrictions due to the anticipated low number of studies with usable data. The final search was performed on October 12, 2023.

Sample Six studies/articles. All studies focusing on anogenital examination of participants following consensual and non-consensual intercourse were included. Heterogeneity among studies was heavily considered; only studies that compared findings between female participants reporting consensual versus non-consensual vaginal penetration were included**.** Extracted data regarding the methodology for each study included provider type, provider experience and training, average participant age, average time elapsed between penetration and examination (measured in hours), visualization methods employed, genital sites examined/documented, and documentation terms utilized

Analysis Mantel–Haenszel random-effects model was used to examine the measure of effect size across the six studies. Pooled RR and their respective 95% CIs were calculated, examining the prevalence of genital lacerations/tears in individuals who reported consensual versus non-consensual vaginal penetration. The heterogeneity among the studies was examined using Cochran's Q statistic, the I^2 index, and τ^2. The meta-analytical method employed the inverse variance method with a restricted maximum-likelihood estimator for τ^2, and the Q-Profile method was utilized for confidence intervals of τ^2 and τ. The analysis was executed using R, version 4.3.2.

Results/Limitations 26% increased risk of laceration occurring in the non-consensual group compared to the consensual group across all studies. In all studies, lacerations were more prevalent on external genitalia. One study found the frequency of genital injury, as determined by macroscopic (naked eye) examination, ranged from 5% to 87%; on average, the prevalence of injuries detected solely through macroscopic examination was 31.8%. However, the prevalence increased when more advanced visualization methods were employed, such as colposcopy with TBD staining, which revealed a 63.3% injury rate. Studies in this meta-analysis did not use standardized visualization and documentation procedures (i.e. some used magnification/microscopy, some macroscopy, some TBD) so standard practices for injury visualization and documentation differed. Only two studies in the meta-analysis included power analyses to determine adequate sample sizes. Limitations: Large heterogeneity among studies including who identified the injuries, how they were trained, visualization methods and specialized equipment that was used, sample size, subject ages, and injury terms used; small sample size of six articles so the impact of any single study's methodological flaws or biases becomes more pronounced; the studies utilized in this analysis did not account for race and how skin color might impact the ability to detect lacerations in individuals with darker skin colors, especially when using only the naked eye; confirmation bias of examiners identifying

injury that are aware if patient is reporting consensual or nonconsensual sexual activity.

Clinical Significance It is not possible to accurately determine whether vaginal penetration that resulted in genital lacerations was consensual or not. The TEARS classification uses the term "ecchymosis," which is often used synonymously with bruise or contusion; however, ecchymosis can occur from non-traumatic causes, whereas bruises (contusions) are caused by blunt force trauma. FN examiners need to address linguistic inconsistencies among injury terms. TBD and colposcopy require ongoing training and documentation of proficiency. Further research is needed using standardized assessment and documentation methods and larger sample sizes to provide additional data on genital laceration injury patterns in consensual versus non-consensual vaginal penetration.

Level of Evidence 5

Reference

Melnyk, B.M. & Fineout-Overholt, E. (2015). "Box 1.3: Rating system for the hierarchy of evidence for intervention/treatment questions" in *Evidence-based practice in nursing & healthcare: A guide to best practice (3rd ed.)* (pp. 11). Philadelphia, PA: Wolters Kluwer Health. ISBN 9781451190946

Journal of the Academy of Forensic Nursing

Community Updates

Forensic Nursing Certification Board-FNCB

Deborah St. Germain, DNP, RN, AFN-C, IVSE-C, SANE-A, SANE-P
FNCB President 2025-2026

Spring 2025 Updates

It's been an exciting few months collaborating with the accomplished forensic nurses serving on the board and committees. Together, we continue the journey Virginia Lynch began with her 1986 master's thesis—to define forensic nursing for future generations. Last year, we reached a major milestone with the publication of the Forensic Nursing Core Competencies for Generalist and Advanced Forensic Nurses in JAFN (Speck et al., 2024). This research, developed through consensus among practice and academic leaders, updated the forensic nursing domains and outlined competencies aligned with the AACN Essentials—laying the groundwork for certification. If you haven't read the article yet, check it out here: [Speck et al., 2024 – JAFN].

As more forensic nurses pursue graduate degrees, many question why some programs focus on sub-specialties instead of offering a comprehensive forensic nursing curriculum. This important question fuels our next research phase—defining a national core curriculum for graduate-level forensic nursing. In the coming months, we'll convene expert clinicians and educators to develop this curriculum for all accredited graduate nursing schools interested in expanding or launching forensic nursing programs.

Certification continues to grow: nearly 150 nurses have earned their GFN-C™, AFN-C™, or IVSE-C™ credentials over the past three years. The 2024 exam pass rate is 80.3%! Nurses consistently credit the study guides for their success and deeper learning. Congratulations to our CERTIFIED FORENSIC NURSES!

We look forward to connecting with many of you at the upcoming AFN Regional Conferences. Stop by the FNCB booth for updates, swag, and giveaways! Also, follow the Forensic Nursing Certification Board on Facebook, Instagram, and LinkedIn for our most popular content—pediatric abuse and strangulation case studies, survivor interviews, and more. You can even vote on our next case study topic: Abusive Head Trauma or Sexual Assault. Cast your vote on Facebook today! In May, we launch our live Zoom question and answer sessions, *"Have questions about Certification? We've got answers."* For more, visit FNCB's website at https://goforensicncb.org/ and email us at forensicncb@gmail.com.

Journal of the Academy of Forensic Nursing

Community Updates

International Special Interest Group

Catherine Carter-Snell, PhD RN SANE-A DF-AFN

The International Special Interest Group (SIG) meets the first Tuesday of each month at 11 EST (North America), which is 4 pm UK, or 5 pm Europe. We use the same Google Meet link each month. Our next meeting is May 6. We welcome members from all countries. It Our focus is learning about what is happening with forensic nursing across the globe and supporting each other in enhancing forensic nurses' roles and development.

As a result of some of our members' input, we recognized an opportunity to support forensic nurses in war and disaster. We are working on two draft position statements: the role of forensic nurses in war and conflict, and the role of forensic nurses in disaster and health emergencies. The drafts of the war and conflict position is going to our policy committee (IPC) this month. The disaster and health emergencies position is still being formulated. Members can join the international SIG to help finalize the role in disasters and health emergencies, or will be able to comment after IPC posts for feedback from AFN members.

A related initiative is to raise the profile of forensic nurses in the community. For instance, the International Council of Nurses (ICN) has produced a document with eight competencies for all nurses and medical teams in disaster. There are many areas in which forensic nurses could enhance these competencies. The International SIG is exploring ways to promote forensic nursing with agencies such as this.

Another initiative of the International SIG was to develop a sliding scale for AFN membership based on country economy. The AFN membership fee is based on the World Bank ratings for each country and is set accordingly.

Please join my co-chair (Dr. Kimberly Kasper) and I, and share what is happening in your country. Forensic nurses are stronger together across the globe!

Journal of the Academy of Forensic Nursing

From the President

Springing Ahead with Momentum!

What an exciting and energizing quarter it has been for the Academy of Forensic Nursing! As we leap into spring, I'm thrilled to report that our AFN Regional Conference: Southeast in Atlanta, GA is just about sold out—an incredible testament to the enthusiasm and dedication of our members. The lineup of speakers promises depth, expertise, and innovation in forensic nursing practice. I sincerely hope these incredible presenters will consider transforming their knowledge into manuscripts for submission to the *Journal of the Academy of Forensic Nursing* so that even more of us can benefit from their insights.

Can't make it to Atlanta? Don't worry! Mark your calendars for our upcoming **AFN Regional Conference: Midwest in Chicago this July**. It's another fantastic opportunity to connect, learn, and grow with your colleagues in the field.

As we move into April, my presidential focus shifts to something crucial for all of us: **certification**. I encourage every member to visit the Forensic Nursing Certification Board website at https://goforensicncb.org to see if you qualify for either the Generalist or Advanced Certified Forensic Nurse exam. The **Interpersonal Violence Strangulation Evaluation – Certified (IVSE-C)** credential is a micro-certification designed for licensed Registered Nurses (RNs) **and Advanced Practice Nurses** practicing in forensic nursing or its subspecialties.This certification focuses on equipping nurses with specialized knowledge and skills to care for individuals affected by interpersonal violence involving non-fatal strangulation.

Certification is more than a credential—it's a powerful validation of your expertise. It reinforces your role as a trusted expert witness, supports high standards in trauma-informed care, and elevates forensic nursing as a specialized, evidence-based profession. It also opens doors for career advancement and contributes to the standardization we need across our practice areas.

Lastly, don't forget—we have **incredibly active Committees and Special Interest Groups (SIGs)** just waiting for your energy and perspective. Whether you're interested in education, research, advocacy, or any of our specialty areas, there's a place for you to get involved and make a difference.

As we *spring ahead* as an Academy, make the most of your membership! Enjoy the *Journal*, tune in to our *Bell Work Talks* podcast and *bi-weekly webinars*, and stay tuned for **exciting new educational offerings** on the horizon.

Warmly,

Paul

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