

Providing Best Practice Medical Forensic Examinations to Sexual Assault Victims:
Development of a Practice Evaluation Tool

Tara L. Sands, DNP, APRN, FNP-C (corresponding author)
Doctorate of Nursing Practice Graduate
Creighton University School of Nursing
Omaha, Nebraska

Home Address:
1009 Jones Street
Omaha, NE 68102
(402) 996-0946
tarasands1@gmail.com

Family Nurse Practitioner at Alegent Health, Omaha, Nebraska
Work Address:
715 Harmony Street 2nd Floor
Council Bluffs, IA 51503
(712)328-8500

Anne M. Schoening PhD, RN, CNE
Assistant Professor
Creighton University School of Nursing
Omaha, Nebraska

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3 Each year in the United States over 213,000 individuals are sexually assaulted
4 (RAINN, 2011). It is estimated that worldwide, over one third of women are victims of
5 sexual violence in their lifetime (Luce, Schragger, & Gilchrist, 2010). Healthcare that
6 meets best practice standards ensures that victims of sexual assault receive the care
7 necessary to promote positive outcomes and prevent long-term health concerns. The
8 healthcare needs of a sexual assault victim are multifaceted. They range from physical
9 needs, such as the immediate treatment of wounds and injuries, to psychosocial needs,
10 such as treatment of post-traumatic stress disorder. Long-term effects of sexual assault
11 can include chronic pain, sexual dysfunction, depression, drug and alcohol abuse and
12 anxiety (Luce et al, 2010).

13 **Background**

14 In order to provide adequate healthcare to sexual assault victims, institutions must
15 be equipped with trained providers to ensure that best practice standards are met. Sexual
16 Assault Nurse Examiners (SANEs) are specially educated to handle the diverse
17 healthcare needs of sexual assault victims. SANE programs are designed to respond to
18 the sexual assault patients' emotional and physical needs and to provide healthcare and
19 evidence collection (Campbell, 2004).

20 Institutions with full-coverage SANE programs provide high quality care that is
21 consistent with best practice standards (Plichta et al, 2007). Additionally, communities
22 with SANE programs have higher prosecution rates and report improved psychological
23 and emotional support for victims following the event (Campbell, 2004). Communities

24 with SANE programs also report an increased awareness of sexual assault. This may be
25 due to SANE programs' influence at the community level (Campbell, 2004).

26 Although SANE programs offer a high level of care to victims of sexual assault,
27 SANE services are not available in all healthcare facilities. As of 2009, there were
28 roughly 350 SANE programs located in the United States (Sexual Assault Resource
29 Service, 2009). While all but three states have SANE programs, the majority of them are
30 found in large metropolitan cities (Sexual Assault Resource Service, 2009).

31 In the absence of SANE programs, medical forensic examinations that meet best
32 practice standards must still be conducted to ensure that victims' health care needs are
33 thoroughly addressed and evidence is collected. The purpose of this study was to develop
34 a tool to evaluate an institution's ability to provide a medical forensic examination that is
35 in accordance with best practice guidelines. Such a tool would allow institutions that
36 lack a SANE program to determine where they may have deficiencies and help them to
37 overcome those deficiencies.

38 **Instrument Development**

39 A victim-centered response through established protocols is essential in providing
40 the best care for sexual assault victims. In 2004, the Department of Justice released the
41 *National Protocol for Sexual Assault Medical Forensic Examinations*. Because this
42 protocol outlines the essential components of a medical forensic exam, the researchers
43 selected it as a framework for the development of the Sexual Assault Forensic Exam
44 Practice Evaluation tool (SAFE-PE). According to the protocol, the components of an
45 exam should include: 1) initial contact, 2) triage and intake, 3) documentation by
46 healthcare personnel, 4) the medical forensic history, 5) photography, 6) exam and

47 evidence collection procedures, 7) drug-facilitated sexual assault, 8) STI evaluation and
48 care, 9) pregnancy risk evaluation and care, 10) discharge and follow-up, and 11)
49 examiner court appearance. In order to supplement recommendations by the *National*
50 *Protocol*, a thorough search of the literature was conducted for each exam component.

51 **Initial Contact**

52 Initial contact should include a survey of the victim for injuries that require
53 immediate medical attention. If injuries are not emergent, the need for evidence
54 collection through a medical forensic examination should be explained to the victim (U.S
55 Department of Justice, 2004).

56 **Triage and Intake**

57 Upon arrival at the healthcare facility, the patient should be taken to a confidential
58 and private area for the patient intake procedure, as well as any interviews that may be
59 necessary (U.S Department of Justice, 2004). At that time informed consent for the
60 medical forensic examination should be obtained (U.S Department of Justice, 2004).

61 **Documentation by the Healthcare Personnel**

62 Examiners are responsible for documenting the details of the medical forensic
63 examination in the medical examination report. The forensic medical record should be
64 kept separately from the medical record, as the medical record is not part of the evidence
65 collection kit (U.S Department of Justice, 2004). Examiners should be properly educated
66 on the importance of documentation to ensure that the medical forensic record is
67 thorough, precise and accurate (U.S Department of Justice, 2004).

68 **The Medical Forensic History**

69 The medical forensic history guides the examination and evidence collection
70 process. Coordinating the interview process with other departments seeking information
71 about the assault ensures that the process is respectful to the patient and minimizes
72 repetitive questions (U.S Department of Justice, 2004). Advocates should be available to
73 the victim during the medical forensic history process to provide support as well as
74 clarification of any questions that the victim may have (U.S Department of Justice, 2004).
75 Interpreters should be provided if the patient is unable to speak the same language as
76 those conducting the interview (U.S Department of Justice, 2004).

77 **Photography**

78 Photography of the patient's anatomy should be included in the medical forensic
79 report. Physical injuries should be photographed, as well as described in drawings and
80 documented in the patient's medical record (Ledray, 2001). Those taking pictures of the
81 assault should be educated on forensic photography as well as the equipment that is used
82 (U.S Department of Justice, 2004).

83 **Exam and Evidence Collection Procedures**

84 Competent forensic evidence collection is the result of training and experience
85 (Ledray, 2001). Documentation of physical findings and the collection of evidence from
86 the patient's body and clothing provide information about the assault in an objective and
87 scientific manner (U.S Department of Justice, 2004). The examiner should collect as
88 much evidence from the patient as possible, with respect to informed consent, medical
89 forensic history, and instructions in the evidence collection kit. It is currently
90 recommended that evidentiary exams be completed within seventy-two hours of the
91 assault (Ledray, 2001).

92 Drug Facilitated Sexual Assault

93 When drug facilitated sexual assault is suspected, the collection of toxicology
94 samples is necessary and urgent. If the patient or accompanying individuals state that the
95 victim may have been drugged, or if the patient or provider suspects drug involvement
96 because of lack of recollection of events, toxicology screening should be performed (U.S
97 Department of Justice, 2004).

98 STI Evaluation and Care

99 The contraction of a sexually transmitted infection (STI) is a significant concern
100 of sexual assault victims (U.S Department of Justice, 2004). Patients should be informed
101 of the risk of transmission, symptoms, and the testing and treatment options available to
102 them. Post exposure prophylaxis should be offered at the time of the exam to ensure that
103 sexual assault victims are treated, in case follow up is not obtained (Luce et al., 2010).

104 All patients should be offered prophylaxis against STIs when exposure has
105 occurred (U.S Department of Justice, 2004). Prophylaxis should be offered for Hepatitis
106 B, unless the victim has previously been fully vaccinated, chlamydia, gonorrhea,
107 trichomonas, and bacterial vaginosis. Information should be provided about the risk of
108 HIV transmission (U.S Department of Justice, 2004).

109 Pregnancy Risk Evaluation and Care

110 The probability of pregnancy should be discussed with all victims of sexual
111 assault. It is estimated that 4.7% of victims, aged 12-45, become pregnant after sexual
112 assault (Lewis-O'Conner, Franz, & Zuniga, 2005). Luce et al. (2010) states that
113 emergency contraception should be offered to all women of childbearing age.

114 Discharge and Follow Up

115 Examiners are responsible to provide crisis intervention and ensure follow up
116 counseling services are available (Ledray, 2001). Examiners should ensure that all
117 medical and mental health needs that are related to the assault have been addressed (U.S
118 Department of Justice, 2004). Discharge instructions should be provided in both oral and
119 written forms (U.S Department of Justice, 2004).

120 **Examiner Court Appearance**

121 Examiners should be aware of the possibility of their testimony being required in
122 court. Examiners should receive education in basic courtroom proceedings and testimony
123 (U.S Department of Justice, 2004).

124 **Methods**

125 The development of the SAFE-PE began by the researchers review of the
126 important components of each of the broad categories identified by the *National Protocol*
127 and the literature review. The broad categories of Initial Contact and Triage and Intake
128 were combined into one section on the tool due to their similar content. The broad
129 category of Examiner Court Appearance was omitted for its limited role in an institution
130 and/or providers' ability to provide a medical forensic examination. A total of nine
131 broad categories were included on the SAFE-PE.

132 Two experienced SANEs and two doctoral prepared nurse educators initially
133 evaluated the items on the SAFE-PE in order to establish face validity. Following this,
134 content validity was established through the use of a survey procedure.

135 After approval from the appropriate Institutional Review Board, the SAFE-PE
136 was sent to 330 SANE-Sexual Assault Response Team (SART) programs identified on
137 the Sexual Assault Resource Service website (www.sane-sart.com), where contact email

138 addresses were listed (Sexual Assault Resource Center, 2009). An introductory email was
139 sent to the contact email address of each program explaining the survey and its purpose.
140 This email asked the contact member to forward a link to the survey to all SANEs in each
141 program. A follow-up email was sent two weeks after the initial introductory email, as a
142 reminder to complete the survey. Informed consent was obtained by the individuals
143 clicking a “Yes, I consent” button and beginning the survey.

144 Respondents to the survey evaluated each component of the SAFE-PE through the
145 use of Fehring’s Diagnostic Content Validation model (DCV). The DCV model was
146 originally used to obtain expert opinions from nurses on the degree to which a defining
147 characteristic is indicative of a given nursing diagnosis (Fehring, 1987). In this study, the
148 DCV model was used to evaluate the characteristics of the SAFE-PE.

149 Results of each survey were confidential and were used by the researchers for
150 purposes of this study only. Demographic information regarding age, gender, education,
151 level of licensure, certifications and length of time as a SANE were also obtained.

152 Using Fehring’s DCV model, participants in this study evaluated the degree to
153 which each component of the SAFE-PE was characteristic of best practice in a sexual
154 assault medical forensic exam. The following Likert Scale was used: 1 = not at all; 2 =
155 very little; 3 = somewhat; 4 = considerably; 5 = very much (Fehring, 1987). Weighted
156 means for each component were then calculated. The weights corresponded to the Likert
157 scale as follows: 1 = 0; 2 = 0.25; 3 = 0.50; 4 = 0.75; and 5 = 1.0. All defining
158 characteristics with weighted means less than 0.5 were left off of the final version of the
159 SAFE-PE (Fehring, 1987).

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Results

161 A total of 270 individuals responded to the online survey. Demographic
162 information is displayed in Table 1. Not all respondents replied to each demographic data
163 question. A return rate remains unknown, as the researchers were unable to determine
164 the number of SANEs that actually received the survey. Weighted means for each item
165 are displayed in Table 2. After analysis of the weighted means, 5 items were removed
166 from the SAFE-PE, due to achieving a weighted mean less than 0.5. All other items
167 remained on the practice evaluation tool.

168 Discussion

169 After analysis of the items on the SAFE-PE, only five items received scores less
170 than 0.5. Each of the items that received a weighted mean less than 0.5 were items that
171 involved providing the sexual assault victim with a prescription for a sexually transmitted
172 disease treatment or emergency contraception. This indicates that the respondents to the
173 survey felt that best practice is to provide the prophylactic treatment at the time of the
174 examination to ensure that the sexual assault victim receives treatment.

175 The provision of prophylactic treatment for Hepatitis B if the victim is not fully
176 immunized received a score of 0.65. The Centers for Disease Control recommend
177 vaccination of sexual assault victims if not fully immunized at the time of the
178 examination (CDC, 2011). The low score for this component could be due to a victim's
179 inability to determine their immunization status or low availability of the vaccine.

180 A score of 0.51 was given to the component regarding HIV prophylaxis. The risk
181 of contracting HIV after a sexual assault is less than 3.2% with penile-anal penetration
182 and less than 0.15% with penile-vaginal penetration (Wieczorek, 2010). Given the low

206 laws could also have influenced the respondents' answers to the online survey, making it
207 difficult to accurately determine if the responses to the survey were based on state laws
208 vs. best practice standards.

209 **Implications for Emergency Nurses**

210 Emergency nurses may use data obtained from the SAFE-PE to allocate the
211 appropriate resources, educate staff nurses and institute policy changes to improve the
212 care provided to sexual assault victims. This may require collaboration with other
213 disciplines, including physicians, advocacy centers and law enforcement. The need to
214 seek funding through grants or outside sources for medical equipment, medications, and
215 other various program costs may be necessary.

216 **Conclusions**

217 The SAFE-PE may be used by emergency nurses to identify gaps in current
218 practices within their institutions. Recommendations for future research would include
219 the evaluation of the SAFE-PE in the practice setting to determine ease of use and
220 reliability. This would provide increased support for the use of the SAFE-PE to
221 adequately evaluate an institution's ability to provide a medical forensic examination that
222 meets best practice standards.

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Gender	Age	Years as SANE	Education	Licensure	Certification
Male- 4	<30 = 20	0-5 = 99	Diploma=9	RN =205	SANE-A=98
Female-252	31-40 = 66	6-10 = 70	Associate's=55	APRN-NP=30	SANE-P=0
	41-50 = 58	11-20 = 36	BSN=121	APRN-CNS=9	Neither=121
	51-64 = 83	21-30= 1	Master's=62	APRN-CNM=7	Both=35
	65+ = 6	30+ = 1	Doctoral=6		
	<i>Mean =44.8</i>	<i>Mean = 7.3</i>	Multiple		
			Graduate=5		

275 Table 1: Demographic data of the respondents to the online survey.

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Components of SAFE-PE	Weighted Mean
<p>Initial Contact, Triage and Intake</p> <ul style="list-style-type: none"> • Survey victim for injuries • Provide treatment for emergent needs • Explain the purpose of evidence collection • Obtain consent for the medical forensic examination • Provide a private room with a door • Ensure that the victim is seen in a timely manner 	<p>0.991902834 0.950404858 0.973684211 0.988866397 0.980769231 0.949392713</p>
<p>Documentation</p> <ul style="list-style-type: none"> • Keep medical records separate, by not including them in the evidence collection kit • Accurately document the extent of injuries, through the use of body maps, measuring of wounds and thorough written descriptions of all injuries 	<p>0.775720165 0.990890688</p>
<p>Medical Forensic History</p> <ul style="list-style-type: none"> • Provide a quiet and private room, with a door, for the interview • Offer an advocate from a sexual assault and/or domestic violence advocacy center • Coordinate interview with law enforcement and/or advocacy programs to minimize repetition • Provide interpretive services if necessary 	<p>0.976720648 0.943319838 0.651422764 0.965587045</p>
<p>Photography</p> <ul style="list-style-type: none"> • Use of digital camera to document injuries • Use of colposcopy to document injuries • Train staff on forensic photography concepts 	<p>0.896341463 0.6 0.882113821</p>
<p>Exam and Evidence Collection</p> <ul style="list-style-type: none"> • Evidence collection performed as directed by evidence collection kit instructions • 1:1 patient to staff ratio while conducting the examination • Examiner remains with evidence at all times until released to law enforcement • Maintain and document chain of custody by documenting name, title, date and time of all individuals having contact with evidence collected 	<p>0.885245902 0.963414634 0.92755102 0.990853659</p>
<p>Drug Facilitated Sexual Assault</p> <ul style="list-style-type: none"> • Obtain blood and/or urine samples for toxicology, if suspected • Document voluntary use of alcohol or controlled substances • Maintain and document chain of custody by documenting name, title, date and time of all individuals having contact with evidence collected 	<p>0.940816327 0.875 0.988821138</p>

STI Evaluation and Care	
• Provide prophylactic treatment for Hepatitis B, if not fully immunized	0.655349794
• Provide prophylactic treatment for Chlamydia at time of examination	0.947959184
• Provide prophylactic treatment for Gonorrhea at time of examination	0.951844262
• Provide prophylactic treatment for Trichomonas and Bacterial Vaginosis, if victim has had no alcohol intake in previous 24 hours at time of examination	0.757231405
• Provide prescription for medication to treat Chlamydia	0.476793249*
• Provide prescription for medication to treat Gonorrhea	0.474789916*
• Provide prescription for medication to treat Trichomonas and Bacterial Vaginosis	0.488445378*
• Conduct HIV risk assessment and counsel patient on risk of transmission	0.793209877
• Provide initial HIV prophylaxis medications if indicated by risk assessment at time of examination	0.650414938
• Provide prescription for initial HIV prophylaxis medications if indicated by risk assessment	0.513598326
• Provide prescription for remaining course of HIV prophylaxis	0.485477178*
• Provide referral for HIV treatment resources	0.898148148
Pregnancy Evaluation and Care	
• Obtain pregnancy test	0.9218107
• Provide emergency contraception at time of examination	0.97107438
• Provide prescription for emergency contraception	0.482291667*
Discharge and Follow Up	
• Provide shower	0.595041322
• Provide change of clothes	0.887860082
• Provide oral and written discharge instructions	0.991803279
• Provide recommendations for follow up appointments	0.977459016
• Provide crisis center service information	0.990740741

304 Table 2: The components of the SAFE-PE and the corresponding weighted mean. An
 305 * indicates weighted means less than 0.5, which were eliminated from the SAFE-PE.
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