Evidence Collection and Care of the Sexual Assault Survivor

The SANE-SART Response

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an author commissioned by

Violence Against Women Online Resources

August 2001

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Introduction

Violence has a significant impact on the physical and psychosocial health of millions of Americans every year. It is essential that victims who present to emergency departments (ED) for even minor trauma be thoroughly evaluated. ED staff must be aware of the types of injuries most likely resulting from violence, and the victim must be asked about the cause of the trauma to determine if it is the result of violence and further evaluation is required (Sheridan: 1993). When violence, such as rape, is identified, further evaluation is usually necessary, including proper evidence collection maintaining chain-of-custody, crisis intervention, pregnancy and sexually transmitted infection (STI) risk evaluation, and preventive care.

It has been only in recent years that our health care facilities have begun to recognize their responsibility to have trained staff available to provide this specialized service for victims of sexual assault.

Treating injuries alone is not sufficient. In 2000, Coney Island Hospital was fined $46,000 by state regulators after a rape victim came to the medical facility and a sexual assault evidentiary examination was not accurately performed. She was made to wait three hours before being examined and then potentially significant evidence, including her underwear and vaginal swabs, was lost. The Department of Health investigation also found that the hospital did not provide her with medication to prevent pregnancy and they failed to provide complete care. The authorities believed that had correct evidence collection and chain-of-custody (the signature record of everyone who had possession of then evidence) occurred, the evidence may have been useful to secure a conviction against the serial sex offender charged with her rape. As a result New York passed the Sexual Assault Reform Act requiring New York State medical facilities to develop specialized sexual assault examiner evidence collection programs in 2001 (Chivers: 2000).

It was as recently as 1992 that the guidelines of the Joint Commission on the Accreditation of Health Care Organizations (JCAHO) first required emergency and ambulatory care facilities to have protocols on rape, sexual molestation and domestic abuse (Bobak: 1992). By 1997 they also required health care facilities to develop and train their staff to use criteria to identify possible victims of physical assault, rape or other sexual molestation, domestic abuse, and abuse or neglect of older adults and children (JCAHO: 1997). While JCAHO certainly does not require that specially trained forensic examiners (FE) or Sexual Assault Nurse Examiners (SANEs) be available to do the evaluation, these requirements do mean all medical facilities must identify and provide appropriate and complete services to victims of rape and abuse. These requirements have effectively set the stage for the further development of the SANE role as an important component of the emergency medical response to survivors of sexual assault.

To be most effective, it is essential that the SANE, FE, or any other medical care provider work within a coordinated Sexual Assault Response Team (SART) model. At a minimum the SART should include the SANE (or medical care provider), an advocate, a law enforcement officer, and a prosecutor. Other members may include domestic violence victim advocates, state crime laboratory personnel, clergy, and social services staff (Ledray: 1999). This article will discuss the initial care necessary for the sexual assault survivor and the SANE-SART model for providing this care.

SANE-SART Development

As a part of this same movement to better meet the needs of this under served population, the first Sexual Assault Nurse Examiner (SANE) programs were established in Memphis, TN, in 1976 (Speck & Aiken: 1995), Minneapolis MN, in 1977 (Ledray & Chaignot: 1980 ; Ledray: 1999), and Amarillo, TX, in 1979 (Antognoli-Toland: 1985). Unfortunately, these nurses worked in isolation until the late 1980's. In 1992, 42 individuals from 31 programs across the United States and Canada came together in Minneapolis for the first time at a meeting hosted by the Minneapolis, Minnesota, based Sexual Assault Resource Service and the University of Minnesota School of Nursing. It was at that meeting that the **International Association of Forensic Nurses (IAFN)** was formed facilitating the further organization and development of SANE-SART programs (Ledray: 1996). While the initial SANE development was slow, with only three programs operating by the end of the 1970's, development today is progressing much more rapidly. By March 2001 there were 403 SANE programs registered on the Office for Victims of Crime (OVC) funded SANE-SART

web site operated by the Minneapolis based Sexual Assault Resource Service [http://www.sane-sart.com] (www.sane-sart.com).

The impetus to develop SANE programs began with nurses, other medical professionals, counselors, and advocates working with rape victims in hospitals, clinics, and other settings across the country. It was obvious to these individuals that the services to victims of this horrific crime were inadequate, and not at the same high standard of care as other ED clients (Holloway & Swan: 1993 ; O'Brien: 1996). When rape victims came to the ED for care they often had to wait as long as four to twelve hours in a busy, public area, their wounds seen as less serious than the other trauma victims, competing unsuccessfully for staff time with the critically ill (Holloway & Swan: 1993 ; Sandrick:1996 ; Speck & Aiken: 1995). They were often not allowed to eat, drink, or urinate while they waited, for fear of destroying evidence (Thomas & Zachritz: 1993). Doctors and nurses were often not sufficiently trained to do medical-legal exams, and many were lacking in expert witness testimony ability as well (Lynch: 1993). Even when they had been trained, staff often did not complete a sufficient number of exams to maintain their level of proficiency (Lenehan: 1991 ; Yorker; 1996 ; Tobias: 1990). Even when the victim's medical needs were met, the victim's emotional needs all too often were overlooked (Speck & Aiken: 1995), or even worse, the survivor was blamed for the rape by the ED staff (Kiffe: 1996).

Typically, the rape survivor was faced with a time-consuming, cumbersome succession of examiners for one exam, some with only a few hours of orientation and little experience. ED services were inconsistent and problematic. Often the only physician available to do the vaginal exam after the rape was male (Lenehan: 1991). While approximately half of rape victims were unconcerned with the sex of the examiner, for the other half this was extremely problematic. Even male victims often prefer to be examined by a woman, as they too are most often raped by a man and experience the same generalized fear and anger towards men that female victims experience (Ledray: 1996).

Evidence of SANE-SART Efficacy

Unfortunately, little research data is available on the efficacy of the SANE-SART model. Most of what is available in the literature is testimonial or based on case studies.

Better collaboration with law enforcement

SANE programs, working collaboratively as a part of a SART can ensure that police obtain records of exams in a more timely fashion, and interpret the findings for them when necessary. Some SANEs routinely ask for the name, address and phone number of friends or relatives with whom the survivor might decide to stay, and through whom they may be later contacted and this information is often very helpful to the police (Ledray: 1992a). Police are reported to prefer to work with a few forensically trained nurses because in many ways it makes their job easier (Yorker: 1996).

Higher reporting rates

In EDs without a SANE program available, survivors sometimes encountered busy, insensitive doctors, nurses, or police and may have decided it was not worth the effort to report and follow

through with prosecution (Frank: 1996). By providing the rape survivor with additional assistance, resources, and support, SANEs facilitate the follow through with the legal process (Frank: 1996 ; Ledray: 1992a). This support results in an increase in reporting by victims (Arndt: 1988). In one program 38% of 337 rape survivors were uncertain about reporting when they first came to the hospital ED. After working through their fears and concerns with a knowledgeable SANE, an additional 12% decided to report and the police were called to the ED. An additional 23% agreed to have an evidentiary exam completed because they thought they would report. Only 3% of the 337 survivors in this study did not report (Ledray: 1999).

Shorten examination time

Not only does a SANE program shorten the wait for the survivor before the exam is begun, but SANEs also shorten the time a survivor must ultimately spend in the ED. Unlike the ED physician who may be called away during the rape exam to see a more urgent ED case, the SANE is able to stay with the survivor until the entire exam is completed (Frank: 1996). In a client satisfaction questionnaire mailed to 201 survivors two weeks after they were seen by a SANE for an exam, 93% of those returning the questionnaire were satisfied with the care they received (Speck: 1995).

Better forensic evidence collection

Just as with any other specialized clinical skill, competent forensic evidence collection is the result of both training and experience. It does not necessarily take a medical degree. Unfortunately, forensic principles are not taught in most medical or nursing schools. Even when doctors and nurses who work in EDs are taught the basic forensic principles of evidence collection, few have the opportunity of conducting sufficient rape exams to develop or maintain this proficiency. A primary advantage of the SANE program is that with a limited number of dedicated nurses completing all of the evidentiary exams in a given hospital or regional area, they are able to complete an adequate number of exams to develop and maintain this proficiency.

As a result of periodic meetings with the prosecuting attorneys about the use of evidence in the courtroom, the quality of evidence collected has evolved over the years of the SANE program operation and today is more complete and helpful in obtaining convictions. For instance, one program now routinely collects an extra tube of blood that can be held and run for drug or alcohol analysis if the assailant claims the victim was so drunk that she doesn't remember giving consent or that she exchanged sex for drugs (Ledray: 1992a).

Results of research data collected by SANE programs on the incidence of injury to rape victims or of finding sperm after a rape, has also been helpful to county attorneys needing to explain that the lack of injuries or the absence of sperm does not mean the victim was not raped (Ledray: 1992a).

More complete documentation

In a study comparing 24 sexual assault evidence kits collected by SANEs to 73 evidence kits collected by non-SANEs the SANE kits were overall better documented, more complete, and always maintained proper chain of evidence, whereas the others did not. Thirteen kits, 18%, of the kits completed by non-SANEs, either had no indication of who had collected the evidence or it was illegible, making the evidence useless. All the SANE kits were properly labeled (Ledray & Simmelink: 1997).

Improved prosecution

The role of the SANE does not end with the initial collection of evidence. Courtroom testimony is also important... In fact, there are several reports of county attorneys who were initially concerned about the testimony of SANEs, later finding that SANEs were extremely credible witnesses in court as a result of their extensive experience and expertise in conducting the sexual assault exam. They are also more accessible and more willing to adjust their schedules to testify, as it is an expected part of their chosen position (Ledray & Barry: 1998). Prosecuting attorneys have come to trust the competence of the SANE as a witness if the case goes to trial (Yorker: 1996). Solid credentials back up the testimony of the SANE as do impressive numbers of victims seen (Lenehan: 1991). It was based on this solid SANE education, training, and experience that Tennessee more broadly interpreted their state laws to allow the SANE to testify in court (Speck & Aiken: 1995). A common concern of physicians turning over the exam to the SANE is that they will still be called to testify in court. While physicians are called to testify about injuries that they treated, in thousands of cases there has not been one case where the testimony of the SANE alone was not sufficient (Ledray & Simmelink: 1997).

The Santa Cruz County Attorney actually believes that having the SANE collect evidence and be available to testify in court has resulted in more guilty pleas (Arndt: 1988). One SANE program reported a 100% conviction rate for over three years in cases that went to court and in which the SANE testified (O'Brien: 1996). Another SANE program has an impressive 96% conviction rate in cases in which the SANE did the exam (Smith: 1996). In New York City the prosecutor reported that an assailant continued to deny he had any sexual contact with the rape victim until he was confronted with the evidence collected by the SANE. He pled guilty to the maximum charge and accepted a 15-year prison sentence (Chivers: 2000).

SANE Program Operation

Initial Medical Evaluation

The ED staff is typically responsible for initially responding to the sexual assault survivor, including taking vital signs and treating any serious injuries prior to the arrival of the SANE (Ledray: 1992). A routine physical exam is not recommended, because that is not why the victim has come to the ED. This is explained to the client verbally and reiterated in the consent form (Ledray: 1996). It is also important that whenever possible, the physician wait to treat injuries until after the SANE

documents injuries with pictures and collects evidence. Sometimes, even with serious injuries, it may not be detrimental to delay treatment until after the forensic exam (Speck & Aiken: 1995).

The Evidentiary Exam

In 1987, California became the first state to standardize their sexual assault protocol statewide (Arndt: 1988). Few states have done so even today and there is still significant variation in what evidence is collected and how it is collected in different locations even within the same state. A number of articles explain the specific components of the evidentiary exam, some step-by-step (Blair & Warner: 1992 ; Bobak: 1992 ; Hampton: 1995 ; Ledray: 1999 ; Ledray: 1994 ; Ledray: 1996 ; Neff: 1989 ; Osborn & Bryan: 1989). All include the following components: obtain written consent; get an assault history including orifices where violence was used or penetration occurred and by what, forms of violence used and where; obtain pertinent medical information including allergies, current pregnancy status, and menstrual cycle; conduct physical exam for trauma and areas of tenderness; examine involved orifices for trauma and to collect sperm and seminal fluid; collect any foreign matter present; comb the pubic hair for foreign hair and matter; complete fingernail scrapings; collect the survivor's blood for type, and DNA screen; collect saliva for secretor status; collect torn or stained clothing. The areas of variation in these protocols include: the amount of documentation; prophylactic treatment for STDs vs. culturing; what clothing is saved as evidence (all vs. only torn or soiled clothing); if head and pubic hairs are plucked and how many; and the collection of additional blood specimens for drug and alcohol analysis.

Time frame

Today most national, state, and institutional protocols recommend that evidentiary exams be completed within 72 hours after a sexual assault (ACEP: 1999 ; Frank: 1996 ; Ledray: 1999). Post 72 hour exams are, however, sometimes conducted in cases when there are injuries that can be documented or when the victim has not changed clothes or showered and evidence may still be available for collection.

The nurse examiner on call is typically expected to be at the paging facility to begin the exam, from 30 minutes (Speck & Aiken: 1995 ; Holloway & Swan: 1993) to a maximum response time of 60 minutes after being paged (Ledray: 1992). An uncomplicated exam, without injuries, can take one to five hours to complete (Frank: 1996). It will more likely take two to four hours (Lenehan: 1991 ; Sandrick: 1996 ; Holloway & Swan: 1993).

Evidence collection

SANEs look for evidence to confirm recent sexual contact; to show force or coercion was used; to help identify the suspect; and to corroborate the survivor's story (Frank: 1996 ; Ledray: 1996). A few programs still collect a vaginal normal saline aspirate (Osborn & Neff: 1989), and some pluck 15 to 20 head hairs and pubic hairs (Osborn & Neff: 1989), or cut hairs rather than plucking, since many laboratories do not analyze the root (Neff: 1989). Most experts today, however, do not recommend collection of vaginal aspirates or collection of head or pubic hair evidence in the ED, because if hair evidence is needed from the victim it is retrievable at a later date in time (ACEP:

1999 ; Ledray: 1999). Some state crime laboratories still request this evidence, however, and it is essential that the forensic examiner is aware of the local standards.

DNA Evidence

In 1987, the first man was convicted of sexual assault with the help of DNA evidence. The case was upheld on appeal the following year (Lewis: 1988). In 1991, the Minnesota Bureau of Criminal Apprehension (BCA) Laboratory became the first state crime lab to identify a suspect on the basis of DNA alone. As a result of this valuable investigative resource, an otherwise unidentified rapist was found and convicted (Ledray & Netzel: 1997).

The recognition of deoxyribonucleic acid (DNA) as a valuable investigative tool, and the knowledge that many rapists are repeat offenders, led to the development of the FBI Combined DNA Index System (CODIS) (Miller: 1996). The federal DNA Identification Act, included in the 1994 Crime Bill, allocated $40 million to expand DNA testing capabilities on a national basis. Today, as a result, 57 laboratories in 27 states participate in the CODIS system (Miller; 1996). These databases are used for "DNA fingerprinting" in much the same way as conventional fingerprint databases are used. Genetic profiles found in semen and blood evidence are now used to link serial cases, identify offenders of multiple assaults, and exonerate falsely accused suspects (Ledray & Netzel: 1997).

DNA evidence should be obtained by collecting any available blood evidence that could be from the assailant on the skin or clothing of the victim. If the survivor reports she scratched the assailant, fingernail scrapings should be collected in hopes of collecting the assailant's blood. DNA can also be obtained by swabbing the involved orifices with a standard size cotton tip swab for sperm and seminal fluid (Ledray & Netzel: 1997).

In addition, when the SANE or forensic examiner completes the evidentiary exam, blood evidence must be collected from the survivor for DNA analysis to distinguish her DNA from that of the assailant (Frank: 1996).

Seminal fluid evidence

It is important to remember that the absence of positive sperm or seminal fluid findings does not prove there was no recent sexual intercourse (Tucker, Ledray & Werner: 1990). Studies have shown that 34% or more rapists are sexually dysfunctional (Groth & Burgess: 1977), and as many as 40% wear condoms (Larkin & Paolinetti: 1998), Seminal fluid evidence is usually analyzed for sperm, motile (alive and moving when observed under the microscope) or non-motile, and for prostatic specific acid phosphatase. This enzyme, acid phosphatase, is present in large quantities in seminal fluid and minimal concentrations in vaginal fluids, thus if a high level of acid phosphatase is collected in a sexual assault victim, this would be indicative that recent sexual contact occurred. Cases are typically negative for sperm and positive for acid phosphatase when the assailant had a vasectomy, but this is also possible in cases of chronic alcoholism (Enos & Beyer: 1980). Unfortunately, there has been little study of the results of sexual assault exams and the likelihood of getting specimens positive for sperm or acid phosphatase.

In one study of the results of 1007 rape survivors examined, sperm was found in only 1% (N=3) of the 369 cases involving oral rape. All of the positive oral specimens were collected within three hours of the rape. Of the 210 cases with rectal involvement, only 2% (N=4) were positive for sperm. These exams were all completed within four hours of the rape. In the 111 skin specimens collected, 19% (N=12) were positive. All but two of the positive specimens were collected within four hours of the rape. Of the 919 vaginal specimens, 37% (N=317) were positive. Of these, the majority, 263 were examined within five hours and 317 were examined within 12 hours of the rape. Only 7 of the positive specimens were collected more than 20 hours after the rape (Tucker, Ledray & Werner: 1990).

In this same study, the acid phosphatase results were better by approximately a factor of ten. Of the oral specimens, 11% (N=40) were positive; 12%(N=32) of the rectal specimens were positive; 43% (N=72) of the skin specimens were positive; and in 62% (N=566) of the cases involving vaginal assault (Tucker, Ledray & Werner: 1990).

Another study comparing PAP (prostatic acid phosphatase) to PSA (prostatic specific antigen) found, in a sample of 212 women who had consenting sex within four days, that more positive results were obtained with PAP analysis. While both were positive 59% of the time, PAP was positive 84% of the time and PSA was positive 60% of the time. PAP was negative only 2% of the time when PSA was positive, and PSA was negative 25% of the time when PAP was positive (Roach &Vladutit: 1993).

Sexually Transmitted Infections (STI)

In the past, forensic examiners tested for STIs in the ED and then again at follow up. The rationale was that if a victim was negative initially, and positive on follow up, the assailant, if apprehended, could be tested as well. If he was positive for the same STI this could then link him to the crime. Because there are so many variables that could account for a positive STI test, this has not been useful forensic evidence and is no longer recommended practice for adult and adolescent examinations. It is still recommended for ongoing child sexual abuse (ACEP: 1999 ; Frank: 1996 ; Ledray: 1999).

STIs are, however, a concern for victims from a clinical perspective and must be addressed as a part of the initial examination. While one study found 36% of the rape victims coming to the ED stated their primary reason for coming was concern about having contracted a STI (Ledray: 1991), the actual risk is rather low. The CDC estimates the risk of rape victims getting gonorrhea is 6% to 12%, chlamydia is 4% to 17%, the syphilis risk is 0.5% to 3%, and the risk of HIV is less than 1% (CDC: 1993). STI testing is very expensive and time-consuming for the survivor, who must return two or three times for each test, and unfortunately, most victims do not return (Blair & Warner: 1992). In one study, 25% of the survivors seen in the ED returned for the initial STI follow-up visit (Ledray: 1991). In another study, only 15% returned. They were able to contact 47% of those who had not returned for follow-up and they found an additional 11% of these went elsewhere for medical follow-up, however, only 14% told the physician they saw for follow-up about the rape (Tintinali, Hoelzer & Michigan: 1985). Most clinicians recommend prophylactic treatment for

STIs. Except in child sexual abuse cases, cultures taken need not be handled as evidence, because they are not used in court (Blair & Warner: 1992).

Since the early 1980's HIV has been a concern for rape survivors even though the actual risk still appears to be low. The US Center for Disease Control and Prevention estimates that the risk is 1 in 500 nationally (CDC: 1998). In a study of 412 Midwest rape victims with vaginal or rectal penetration, tested for HIV in the ED, at three months post-rape, and again at six months post-rape, not one became positive for HIV. The study also found, however, that even if the survivor did not ask about HIV in the ED, within two weeks it was a concern of theirs or their sexual partner. While the researchers did not recommend routine HIV testing, based on the recommendations of the study population, they recommend that even if the survivor does not raise the issue of HIV or AIDS in the ED, the SANE or forensic examiner should, in a matter of fact manner, provide them with information about their risk, testing and safe sex options. This will allow them to make decisions based on facts, not fear (Ledray: 1993). How to best deal with the issue of HIV is complicated and controversial (Blair & Warner: 1992). Because the rates of infection vary from state to state, so does the actual risk of infection. As the antiviral agents that are used after possible exposure are toxic and have side effects that will likely make the victim very nauseated and these prophylactic agents are still of uncertain efficacy, it is not generally recommended (ACEP: 1999 ; Hampton: 1995).

Pregnancy

While the risk of pregnancy from a rape is the same as the risk of pregnancy from a one time sexual encounter, 2% to 4% (Yuzpe, Smith, Rademaker: 1982), pregnancy is a concern of most sexual assault victims and must be addressed at the time of the initial examination even if the treating medical personnel or the medical facility does not support termination of an existing pregnancy. The National Conference of Catholic Bishops has agreed that "A female who has been raped should be able to defend herself against a potential conception from the sexual assault. If, after appropriate testing, there is no evidence that conception has occurred already, she may be treated with medication that would prevent ovulation, or fertilization (p. 16, National Conference of Catholic Bishops: 1995: 1995). The importance of offering complete care to sexual assault victims, which includes care to prevent pregnancy when the victim wants this care, was further strengthened by the fine against the New York City hospital, which did not ensure that a victim received a full birth-control prescription to prevent pregnancy (Chivers: 2000).

Most programs offer pregnancy prevention care for the women at risk of becoming pregnant, if they are seen within 72 hours of the rape, and have a negative pregnancy test in the ED. Sometimes referred to as "the morning-after pill," oral contraceptives such as Ovral, or Lovral are used for emergency contraception (ACOG: 1996). The Yuzpe regimen using a combined oral contraceptive is currently the most common emergency contraceptive (Yuzpe Rademaker: 1982). This will reduce the risk of pregnancy by 60% to 90%.

However, more recently clinicians have begun to use a newly available progestin only contraceptive, Levonorgestrel 0.75 mg. (Plan B). Plan B is slightly, but non-significantly, more effective in reducing the risk of pregnancy. When started within 72 hours of unprotected intercourse, 85% of pregnancies

were prevented in one study, compared to 57% using the Yuzpe regimen (Task Force on Post Ovulatory Methods of Fertility Regulation: 1998). The effectiveness of both methods decreases as the time between the assault and the first dose increases. When given within the first 24 hours Plan B reduced the risk of pregnancy by 95%, but only by 61% when given between 48 and 72 hours after unprotected intercourse. The significant difference was in the only side effect, nausea and vomiting, which was significantly reduced with the use of Plan B to 23.1%, from 50% with the Yuzpe method (Task Force on Postovulatory methods of Fertility Regulation: 1998).

Crisis intervention and counseling

One of the basic components of the evidentiary exam is crisis intervention, mental health assessment and referral for follow-up counseling. While this will be the primary role of the rape crisis center advocate when one is present, the SANE or forensic examiner is also responsible to provide crisis intervention and ensure follow up counseling services are available (Speck & Aiken: 1995 ; Ledray, Faugno & Speck: 2001).

When domestic violence is suspected or substantial drug or alcohol abuse appears to be an issue, it is important to have a protocol in place for screening and/or referral. Many medical facilities have domestic violence victim advocates available who can be called to the hospital like rape crisis center advocate. If available, these services should be utilized. It is also important to be aware of the availability of shelters for victims of domestic violence who may need a safe place to go after the evidentiary exam.

Continued fear and anxiety resulting from the rape can significantly affect the survivor's life, including her work, school and relationships with others, far into the future (Ledray: 1999). The psychological impact and treatment needs of the survivor have been addressed extensively in the psychological literature, review of which is beyond the bounds of this summary. Dr. Burgess summarized and labeled the psychological impact Rape Trauma Syndrome (Burgess & Holmstrom: 1974). Self-help books such as **Recovering From Rape** (Ledray: 1994), are available for the large majority of rape survivors who do not return for counseling.

Non-genital injuries

Physical injuries are probably the best proof of force and need to be photographed, described on drawings, and documented in writing on the exam report (Ledray: 1992b). Photographs are not meant to take the place of good charting (Pasqualone: 1996). Specific consent to photograph is necessary, but may be included as a standard part of the exam consent. Two sets of pictures should always be taken. One set always remains with the chart. The second set should be given to the police with the other sexual assault evidence, and will usually be the pictures used in court. When pictures are taken, the first picture should always be of the survivor's face and others should follow in a systematic order, such as head to toe, or front to back. They should be taken first without a scale to show nothing is being hidden, then with a scale to document size. While a coin such as a quarter is sufficient, a gray photographic scale will also assist with color determination.

Each picture should include a label with the survivor's name and/or case number in the picture. On the back of every Polaroid the SANE should print the date, time, client number and/or name, and the examiner's name and title. It is recommended that photographic documentation of injuries be completed using a 35mm camera with a standard 50mm lens and 100-200 speed (ASA) color film. A disadvantage of 35mm pictures is that they must be sent out for developing and often are not available to the police when they investigate, or to the prosecutor deciding to charge the case. Polaroid pictures have the advantage of being available to the police during their initial investigation, but they have the disadvantage of poorer quality, especially for close ups. Polaroid film is also very expensive (Sheridan: 1993). Some experts recommend taking both Polaroid pictures (for use in the initial investigation and the charging decision making process) and 35mm pictures (that can be developed and used if the case goes to court) (Ledray: 1999).

While some examiners have been historically hesitant to take pictures of victims' breasts and genitals, not properly document injuries with pictures may result in liability for failure to document (Pasqualone: 1996). The survivors' dignity can be maintained and proper evidence made available by taking close up pictures of the injury and by properly draping exposed areas.

Significant physical injury from a sexual assault is rare and occurs in only 3% to 5% of rape survivors across studies. Less than 1% of rape victims have been found to need hospitalization. Even minor injury is usually documented in only about one-third of the reported rapes. Injuries, when they do occur are, however, more common in stranger rapes and rapes by someone the victim knows intimately, such as a domestic partner, rather than in date rape or acquaintance rape situations (Kilpatrick, Edmunds, & Seymour: 1992 ; Ledray: 1999 ; Bownes, O'Gorman & Saters: 1991 ; Marchbanks, Lui & Mercy: 1990 ; Tucker, Ledray & Warner: 1990).

In one study of 351 rape victims, the rate of physical injury for male rape victims (40%) was found to be higher than for female victims (26%). While 25% of the men and 38% of the women in this study sought medical care after the rape for their physical injuries, only 61% of them told the treating physician they had been raped. The women expressed a strong preference for medical treatment and counseling by a woman. The male victims were, however, less likely to express a gender preference (Petrak & Clayton: 1995). A more recent study of 1,076 sexual assault victims found non-genital trauma more often than previous studies, 67% of the time (Riggs, Houry, Gayle, Markovchick, & Feldhaus, 2000). It is also important to note that the absence of injuries does prove the lack of force or coercion and does not prove consent (Tucker, Ledray & Warner: 1990).

It is important that the forensic examiner is aware of the likely pattern of injuries from violence in order to know the appropriate questions to ask and where to look for injuries on the basis of the history given. Intentional injuries tend to be more central, and accidental injuries more toward the extremities. Especially if domestic violence is involved, injuries are most often inflicted where the victim can easily hide them. The most common injuries are broken ear drums from slapping, neck bruising from choking, punch bruising to the upper arm, and "defensive posturing" injuries to the outer mid-ulnar areas of the arms. Also common are whip or cord like injuries to the back; punch or bite injuries to the breasts and nipples; punch injuries to the abdomen, especially in pregnant

women; punch and kick injuries to the lateral thighs; and facial bruising, abrasions and lacerations (Sheridan: 1993).

The literature cautions the forensic examiner against trying to date the age of a bruise by its color. While we know that in people with light skin recent bruising is red or dark blue in color, and older bruising may be green-blue or yellow-blue, and older still bruising may be barely visible, people vary greatly in their rates of healing. Medications may affect bleeding and healing response as well. Experts suggest that the size and color should be documented, e.g. "2 cm X 3 cm, deep blue-purple bruising" without further interpretation (Ledray: 1999). It is also important to remember that it can be very difficult to even identify bruising in individuals with dark skin if alternative light sources are not available. Unfortunately, since these light sources are very expensive, most medical facilities do not have them available.

Genital Trauma

The literature suggests that colposcopic genital examination is extremely useful to visualize and document genital abrasions, bruises, and tears, as they are often so minute they cannot be seen with the naked eye (Frank: 1996 ; Ledray: 2001 ; Slaughter: 1992). When the colposcope is used in the forensic examination of the sexual assault survivor it is simply used to magnify minute trauma in the genital area that is not readily visible with the naked eye, or not easily photographed. It is not being used to identify pathology. It is well documented in the legal arena that the use of the colposcope is an accepted practice in the forensic examination of adults and children (IAFN: 1996), and colposcope use for this purpose is within the scope of the SANE practice (Ledray: 2001). The colposcope is an especially important part of the examination of children (Soderstrom: 1994). When a colposcope is used it is important to always document the magnification, the positions for examination, and a method of measurement should also be used (Soderstrom: 1994).

Most research on sexual assault documents the likelihood of genital trauma identification without the use of a colposcope to magnify the trauma is similar to that of non-genital trauma; 1% severe injury and 10% to 30% minor injury across studies (Ledray: 1999). In a recent study Riggs, et al (2000), found genital trauma in 52% of the cases reviewed. Unfortunately, the researchers do not indicate if a colposcope was used during the examination. With colposcopic examination genital trauma has been identified in up to 87% (N= 114) of sexual assault cases (Slaughter: 1992). Just as with non-genital trauma, the absence of genital trauma does not indicate consent.

Rape victims often fear vaginal trauma, and are concerned that their genital area has been permanently damaged. Since this is rarely true, it is helpful and reassuring to a traumatized victim to have the extent of the trauma, explained to them after the forensic examination is completed (Ledray: 1999). When a video colposcope is available it can be helpful to turn the screen so that the survivor can also view the genital area during the examination.

In one study, vaginal injuries represented only 19% of the total injuries, and they were always accompanied by complaints of vaginal pain, discomfort or bleeding (Tintinali, Hoelzer, & Michigan: 1985). Another study found only 1% of rape victims have genital injuries so severe they require surgical repair, 75% of these are upper vaginal lacerations. Upper vaginal lacerations usually present

with profuse bleeding and pain (Geist: 1988). Since the posterior fourchette is the point of greatest stress when forceful stretching occurs, and it is the point of first contact of the penis with the vagina, the resulting injury is characterized as an "acute mounting injury" (Slaughter: 1992). In a study that compared 311 sexual assault survivors to a group of 75 women who had consenting sexual contact, researchers identified genital trauma in 68% (N=213) of the rape survivors, while only 11% (N=8) of the women had injuries from consenting sex (Slaughter, et al:1997).

Both the colposcope and anoscope have been shown to improve the identification of rectal trauma, however, the colposcope may be less helpful than the anoscope. In a study of 67 male rape victims, all examined by experienced forensic examiners, 53% had genital trauma identified with the naked eye alone. This number increased only slightly, 8%, when the colposcope was used, however, the positive findings increased a significant 32% when an anoscope was utilized. The combination of naked eye, colposcope, and anoscope resulted in a total positive findings in 72% of the cases (Ernst, Ferguson, Weiss, & Green: 2000).

Blood evidence

The SANE should always draw the victim's blood for type and DNA (Frank: 1996). In addition it is recommended that an additional tube of blood routinely be drawn for blood and alcohol analysis should this become an issue later when the case is charged (Ledray: 1999).

Urine evidence

While alcohol has long been used to facilitate sexual assaults, today newer, memory erasing drugs such as, flunitrazepam (Rohypnol), other benzodiadepines, Ketamine, Gamma Hydroxybutyrate (GHB), Gamma Butyrolactone (GBL) and many others are being used in drug-facilitated sexual assault (DFSA). Symptoms include a history of having only a couple of alcoholic beverages but quickly becoming extremely intoxicated. The victim can often remember very little of the incident other than flashes, sometimes referred to as "cameo appearances," until she awakens. She may then find herself undressed, or partially dressed, with vaginal or rectal soreness making her believe she has been raped (Ledray: 1999).

Whenever a victim of a potential drug-facilitated sexual assault is seen within 72 hours of the likely assault, a urine specimen should be collected for a drug screen analysis (ACEP: 1999). While 72 hours is the recommended time limit because most substances cannot be detected beyond that time, newer techniques of drug analysis are being developed and the time frames may change. While the technique is still under study, a new process of analysis can now detect a 2mgm dose of flunitrazepam for up to 28 days after ingestion. While these processes are currently only in the research stage, once developed they will allow for the identification of substances as long as twenty-eight days post ingestion of a single 2 mg dose of flunitrazepam (Negrusz, Moore, Stockham, Poiser, Kern, Palaparthy, B. Pharm, Le, Janicak, & Levy: 2000).

Even though there is little memory and perhaps no certainty of a sexual assault, whenever the victim's story is consistent with a DFSA, or suspicious, the forensic examiner should collect a urine specimen for DFSA analysis as a part of the sexual assault evidentiary examination. If the victim calls prior

to coming to the hospital or clinic, she should be told to not void unless necessary, and if she must void to collect her first voided urine in a clean container and bring it with her (Ledray: 1996b; Anglin, Spears & Hutson: 1997).

Maintaining chain-of-evidence

Maintaining proper chain-of-evidence is as important as collecting the proper evidence. Without this complete documentation, with signatures, of chain-of-custody from the individual who collected the evidence to the courtroom, the evidence will be inadmissible (Ledray: 1993). If the SANE must leave the room for any reason during the exam, the evidence must go with her (Frank: 1996).

It is not necessary, nor is it appropriate, for the police officer to be in the exam room when the evidence is collected to maintain proper chain-of-evidence. The police can leave the area and the nurse can call them when the exam is completed, in two to three hours, to return and pick up the evidence. Both signatures on the chain-of-evidence document are all that is necessary. When the police cannot immediately return, the SANE can place the evidence in a locked storage area, preferably a refrigerator with limited access, and when the police do return any available nurse can sign (Ledray: 1993).

Maintaining evidence integrity

While it is suggested that the specimen be refrigerated for long-term storage to prevent deterioration of the specimens, it is essential that the evidence be kept in an area of less than 75 degrees Fahrenheit and the blood not be frozen. This means that storage in an air-conditioned room is sufficient for short-term storage (Ledray: 1999).

Documentation

Many authors caution against the forensic examiner collecting detailed investigative information and suggest that the SANE should ask only for information necessary to collect the proper medical evidence, deal with the immediate physical and psychological needs of the survivor, and collect and interpret the physical and laboratory findings. The SANE or FE must remember they are conducting a medical forensic interview that centers on the survivor and not other assault details or investigative information, such as the height or weight of the assailant. Details reported by the nurse, which differ from the police report, may be used by the defense attorney to show discrepancies in the survivor's story. The only documentation that is necessary is that needed to guide the exam and treat the survivor (Ledray: 1999 ; Slaughter: 1992).

Basic documentation should include:

- site and time of assault
- nature of physical contacts
- race and number of assailants

- relationship to assailant(s)
- weapons and restraints used
- actual and attempted penetration of which orifice by penis, objects or fingers
- ejaculation, if known, and where
- use of condom
- activities of the victim that may have destroyed evidence, such as bathing, douching, bowel movement
- consenting sex within the last 72 hours and with whom
- use of tampon
- change of clothes
- contraceptive use
- current pregnancy
- allergies
- victim's general appearance and response during exam
- physical injuries

It is important to remember that in addition to the SANE assault exam report, the entire chart is a part of the legal record and can be submitted as evidence if the case goes to court. All statements, procedures and actions must be accurately, completely, and legibly recorded (Blair & Warner: 1992). It is important to accurately and completely document the emotional state of the survivor and quote important statements made by the survivor, such as threats made by the assailant (Ledray: 1999 ; Sheridan: 1993). When appropriate, qualifying statements such as "patient states...patient reports..." should be used. If the exam findings match the history given by the survivor the examiner should also document "there is congruence between the victim's story and her injuries" (Sheridan: 1993).

The term "alleged sexual assault" should never be used in documentation of a sexual assault as the term has negative connotations and may be interpreted by judges and juries as indicating the victim exaggerated or lied (Sheridan: 1993).

After the Exam

Many medical facilities now have a place for the survivor to shower, brush her teeth, and change clothes after the exam. They often provide her with fresh clothes, as well (Holloway & Swan: 1993 ; Thomas & Zachritz: 1993 ; Frank: 1996 ; Sandrick: 1996).

It is not unusual for the victim to be afraid to return home alone, so it is important for the advocate or forensic examiner to offer to call a friend or relative to be with the survivor during the exam and to take her home (Ledray: 1996). Alternative safe housing, such as a shelter, may be required and referral sources should be available.

Since the survivor may be in a state of shock in the ED, it is important to provide her with written information to take home with her (Speck & Aiken: 1995). Follow-up phone calls within 24 to 48 hours to check on her status, medical compliance and assist with follow-up referrals are also recommended (Ledray: 1996).

Significant advances in the medical legal examination of the sexual assault survivor have occurred in recent years. Much of the improvement can be accredited to the development of SANE programs and SART teams. By working together, members of the SART have improved services to the survivor, increased reporting rates, improved medical-legal evidence collection, and facilitated a seamless system response. The continued coordination of effort between the professionals working with the survivor of sexual assault is essential to furthering the advancement of our knowledge and to supporting survivor recovery.

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