Sexual Assault

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**KEY POINTS**

- Sexual assault requires the emergency physician to competently and comprehensively evaluate and treat the physical, emotional, and legal needs of the patient.
- Management includes medical stabilization, treatment of physical injuries, emergency contraception, prophylaxis for sexually transmitted diseases, assessment of risk for nonoccupational postexposure prophylaxis, forensic evaluation and evidence collection, crisis intervention, arrangement for follow-up medical care, and referral to social support and legal services.

**EPIDEMIOLOGY**

Sexual assault is sexual contact of one person with another without appropriate legal consent. The precise definition varies slightly from state to state, and health care providers should familiarize themselves with the definition in their jurisdiction. It is a widespread occurrence that permeates every facet of our society and can affect anyone regardless of gender, age, race, or socioeconomic status. In 2009, 88,097 forcible rapes were reported to law enforcement in the United States.¹ This number is estimated to represent only 40% of the total sexual assaults because the majority of cases go unreported.² The National Violence Against Women Survey found that 18% of surveyed women (1 in 6) and 3% of surveyed men (1 in 33) had experienced an attempted or completed rape at some time in their lives.³ The majority of females are assaulted by acquaintances or intimate partners and 32% by a stranger. Young females between the ages of 16 and 24 are disproportionately affected.⁴ For affected males, underreporting of their victimization is the norm. During the last decade, an alarming increase has been observed in reports of drug-facilitated sexual assault (DFSA).⁵

**PRESENTING SIGNS AND SYMPTOMS**

A sexual assault patient will most often walk into the emergency department (ED) alone or in the company of a friend or family member. Alternatively, she or he may be accompanied by law enforcement officers or be transported by emergency medical services. The individual may be seen immediately after or long after the assault. A sexual assault patient initially evaluated within 120 hours (5 days) of the assault should be considered a high-priority patient and be brought to a designated treatment area as soon as possible. The reason for this is manifold and includes providing crisis intervention, treating injuries, administering time-sensitive medications, and expediting the evidentiary examination to minimize loss or deterioration of forensic evidence. It is prudent for EDs to have a systematic management plan in place for these patients from triage to discharge.

**DIFFERENTIAL DIAGNOSIS AND MEDICAL DECISION MAKING**

**MULTIDISCIPLINARY APPROACH**

Emergency physicians (EPs) are responsible for managing both the medical and forensic needs of patients with a report of sexual assault. This is best accomplished in an organized manner, such as with a sexual assault response team (SART). Members include a sexual assault forensic examiner (SAFE), victim advocates, law enforcement officers, crime laboratory personnel, and prosecutors. A SAFE has specialized knowledge and training to perform the forensic evaluation with a standardized sexual assault evidence collection kit (SAECK). Research has shown that use of a SART/SAFE program improves the quality of forensic evidence with an increase in prosecution rates over time.⁶ In jurisdictions in which such teams are unavailable, ED providers are responsible for the forensic examination, and it is therefore prudent that EPs familiarize themselves with their state-specific SAECK.

**CONSENT FOR FORENSIC EVALUATION AND EVIDENCE COLLECTION**

Patients should be informed of all of the options available to them, including forensic evaluation and evidence collection, depending on timing of examination. Before proceeding with any part of this evaluation, written informed consent for all aspects of the evaluation must be obtained as listed in Box 128.1. The patient has the right to refuse all or some parts of a forensic examination, and consent can be withdrawn at any time during the examination.
HOME PATIENT, TWO MEDICAL RECORDS
The clinical encounter with a sexual assault patient is unique in that two medical records are generated for one patient. One is the usual ED medical record and the other is the forensic legal record. These records serve very different purposes, and consequently what is documented in each will differ.

HISTORY
For the ED medical record, the history of the assault should be focused on details that affect medical management of the patient in the ED, including information that will help determine the risk for injuries and what treatment of sexually transmitted diseases (STDs) should be offered. In contrast, the forensic record is driven by strict policies and procedures and should include only medical information that has a direct bearing on evaluation of the reported crime. Material that is generally considered to constitute useful background in a therapeutic context may have a prejudicial effect in a forensic context and should not be included in the forensic record. Examples include the number of previous pregnancies, past mental health treatment, and remote substance abuse. Documentation should be concise and directly relevant to the assault, including any information that is necessary to properly interpret the current physical findings. Many SAECKs contain preprinted forms that help the examiner with the history-taking process to facilitate proper documentation. Salient features of the history that should be obtained for documentation in the forensic medical record are listed in Box 128.2.

PHYSICAL EXAMINATION
Physical examination is necessary to evaluate for signs of any trauma sustained during the sexual assault. The reported incidence of nongenital physical injuries ranges from 23% to 85%. When injuries are sustained, those most commonly seen are soft tissue injuries involving the head, face, neck, and extremities. Blunt force trauma, including penetrative blunt mechanisms, may produce contusions, which are associated with swelling, pain, tenderness, and discoloration, and lacerations from tearing of the tissues. A friction mechanism may cause abrasions. Sharp-force trauma may produce incised wounds. Bites may involve multiple mechanisms of injury. Patterned injuries suggest the specific object, weapon, or mechanism used to produce its characteristic shape.

The physical examination should be dictated by the history of the events. Close attention should be paid to the skin for signs of victim resistance, applied restraints, or defensive wounds. The oral cavity should be inspected for a torn lingual or labial frenulum or contusions to the palate with report of an oral assault. With a report of strangulation, the examination should focus on assessing for and documenting abrasions or contusions of the neck, facial petechiae, and subconjunctival hemorrhage.

Published rates of female genitoanal injury vary widely from 6% to 65%, with most investigators reporting a range of 10% to 30%. Risk factors for injuries included examination within 24 hours of the assault, presence of nongenital injury, threats of violence, and age younger than 20 and older than 40 years. The genital structures most frequently injured as a result of a penetrative mechanism are the fossa navicularis and posterior fourchette, followed by the labia minora and hymen. It is paramount that these areas be inspected carefully during the examination.

Physical examination consists largely of gross visual inspection, which may readily miss documentable injuries. Adjuncts to assist in detecting subtle injuries include anoscopy, colposcopy, Wood lamp, and application of toluidine blue.

A large number of sexual assault patients do not sustain obvious injuries. It is important that the EP understand that the absence of objective physical or genital injury does not preclude the possibility of sexual assault. The presence of such injuries is dependent on many assault-specific and patient-specific factors, including the age of the victim, the state of the tissues such as lubrication and elasticity, the degree of force involved, and the use of objects or implements.

**BOX 128.1 Forensic Evaluation Tasks That Require Written Informed Consent**

Medical evaluation and treatment
History and documentation of the testimonial
Physical examination of the body and genitals with documentation of injuries
Evidence collection, including clothing, hair, blood samples, body fluid samples, and fingernail scrapings
Forensic photography

**BOX 128.2 Pertinent Historical Features of a Sexual Assault for Forensic Documentation**

Date, time, location, and physical surroundings of the assault
Date and time of hospital examination
Loss of memory or periods of unconsciousness
Patient’s narrative of events as they pertain to sexual acts or the trauma sustained
Total number of assailants and relationship to the patient
Weapons, restraints, or force used
Specific sexual acts, including:
- Vaginal, anal, or oral penetration by the assailant’s penis, finger, tongue, or an object
- Ejaculation inside or outside a body cavity
- Condom or lubricant use
- Any injuries to the victim or assailant resulting in bleeding
Physical trauma sustained
Pertinent health history
- Recent medical or gynecologic procedures or treatment that may affect the physical findings or evidence collection
- Presence of menstruation at the time of the assault
- Consensual intercourse in the past 120 hours (5 days)
- Use of any type of contraception in the past 24 hours
Hygiene events after the assault
- Has the patient changed clothes, bathed or showered, washed off, brushed teeth, taken anything by mouth, vomited, urinated, douching, defecated, or used an enema since the assault?
In addition, detection of subtle injuries is largely dependent on examiner training and experience.

For the forensic record, documentation of the physical findings should include thorough, precise written descriptions in standard anatomic position, including injury location, measured size, shape, colors, contours, and depth. In addition, the use of anatomic body maps and forensic photography is encouraged, both of which can be invaluable in court proceedings. Many SAECK preprinted forms include body maps on which to note injuries.

**FORENSIC EVALUATION: EVIDENCE COLLECTION AND CHAIN OF CUSTODY**

The premise of evidence collection in sexual assault cases is to link the victim and assailant, relate both to the crime scene, identify the assailant via a DNA profile, and establish some link between the victim and assailant, relate both to the crime scene.

The SAECK, also known as a “rape kit,” is stocked in most hospitals and is state specific. It is used to guide the process of evidence collection within 96 to 120 hours (4 to 5 days) of an assault. EPs should familiarize themselves with the SAECK used in their jurisdiction.

Once a patient consents to evidence collection, the steps delineated in the kit should be followed. Evidence collection should be guided by the history of the assault. **Box 128.3** lists potential specimens to be gathered for forensic evidence collection.

Evidence is lost in an exponential manner over time. As a result, evidence collection may have to be augmented based on time of evaluation after the assault. Oral and anal swabs should be collected only if the patient is initially evaluated within 24 hours of the assault because the yield thereafter is 0%. In addition, cervical sampling should be considered for evaluations between 96 and 120 hours after the assault to increase the chance of detecting spermatozoa. Seminal fluid, as evidenced by spermatozoa, high levels of acid phosphatase, or p30 prostate-specific antigen, is recovered from 38% to 48% of sexual assault patients.

Chain of custody, also referred to as the chain of evidence, refers to detailed documentation of the trail of the evidence from the time that it is collected until it is exhibited during a legal trial. To comply with the chain of custody, the kit must be accounted for at all times without failure, and all transfers must be documented, including the police officer who assumes responsibility for the kit. If police are unavailable to collect the kit at that point, it should be locked in a secure area reserved for such instances so that data are not invalidated. If there are any gaps in the chain of custody, the evidence may not be admissible in court. It is prudent for EDs to develop protocols for these encounters.

**BOX 128.3 Potential Specimens to Be Gathered for Forensic Evidence Collection**

<table>
<thead>
<tr>
<th>Clothing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each article of clothing should be packaged in separate paper bags to avoid cross-contamination</td>
</tr>
<tr>
<td>If the patient has changed her clothing, only underwear should be collected</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Known blood sample</th>
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</thead>
<tbody>
<tr>
<td>Crime laboratory assesses for the secretor status and blood type of the patient</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicology testing (urine and blood)</th>
</tr>
</thead>
<tbody>
<tr>
<td>For use in cases in which drug-facilitated sexual assault is suspected</td>
</tr>
<tr>
<td>Collect for evaluation less than 72 to 96 hours after the assault (the time varies by crime laboratory)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oral swabs and smears</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collect for evaluation up to 24 hours after the assault</td>
</tr>
</tbody>
</table>

| Head hair combings             |
| Fingernail scrapings           |
| Foreign material collection    |
| Swabs of bite marks or areas where the assailant’s mouth touched the patient |
| Pubic hair combings            |
| External genital swabs         |
| Vaginal swabs and smears       |
| Cervical sampling should be considered for evaluation between 96 and 120 hours after the assault |

| Perianal swabs                  |
| Anorectal swabs and smears      |
| Collect for evaluation up to 24 hours after the assault |

**DIAGNOSTIC TESTING**

Although selection of the initial laboratory studies and radiographic imaging is guided by the trauma assessment, certain tests should be ordered for all sexual assault patients. All female sexual assault victims should undergo urine pregnancy testing because a positive result will alter the choices for prophylaxis. If nonoccupational postexposure prophylaxis (nPEP) will be administered, a baseline complete blood count, liver function tests, and blood urea nitrogen and creatinine levels should be ordered before initiation. If the patient is initially seen many days after the assault and has symptoms
and signs suggestive of active infection with an STD, culture for gonorrhea and Chlamydia should be obtained in addition to a vaginal wet mount and culture for Trichomonas and bacterial vaginosis (BV). Further testing should be reserved for an outpatient follow-up appointment, including human immunodeficiency virus (HIV) antibody testing, syphilis testing, hepatitis B and C serology, and gonorrhea and Chlamydia screening.

The influence of drugs must be considered in each sexual assault case. Samples for hospital toxicology screening should be drawn only if they affect medical management of the patient. During the forensic examination, if the patient is amnestic and DFSA is suspected, urine and blood should be collected with the victim’s consent for a forensic drug screen for assaults occurring less than 72 to 96 hours before the evaluation. These samples are considered forensic evidence, and the chain of custody should be maintained at all times for analysis in the crime laboratory, not in the hospital laboratory.

Mandatory Reporting

Laws regarding mandatory reporting of adult sexual assault victims vary from state to state and can be broken down into laws that specifically require providers to report treatment of a rape victim to law enforcement, laws that require reporting of injuries that may include rape, laws relating to other crimes or injuries that may have an impact on rape and sexual assault victims, and laws regarding sexual assault forensic examinations that may affect rape and sexual assault reporting. It is prudent for EPs to be well informed of the local reporting regulations in their jurisdictions.

Consultation

A multidisciplinary approach to the care of sexual assault patients is prudent to optimize medical care and forensic and legal considerations. In patients with significant physical or genital trauma, consultation with trauma surgery and gynecology should be considered. The local victim advocacy group and hospital social worker should be consulted for patient support. A SAFE should be consulted for forensic evaluation and evidence collection once the patient consents to this course of action. For patients who are at high risk for HIV, consultation with an infectious disease (ID) specialist is important in facilitating the best nPEP regimen based on the characteristics of the assault.

Treatment

Prehospital Management

Prehospital care should proceed as usual with medical stabilization and treatment of injuries. In clinically stable victims without significant injury, it is best practice for the prehospital providers to minimize touching the patient so that potential forensic evidence is not altered. If the sheet that the patient is transported on contains foreign material, it should be folded up and given to the responsible clinical staff member in the ED for possible inclusion in the evidence collection kit while maintaining the protocol for chain of custody.

Hospital Management

A patient with a report of sexual assault may go to the ED immediately after or long after the assault. The time since the assault determines how these patients are managed, including what interventions and treatments are recommended. Figure 128.1 outlines the scope of evaluation and treatment of sexual assault based on the timing of initial evaluation.

Sexual assault is a disempowering experience, and giving patients options about their management and treatment is important in supporting the process of recovery. If conducted in a sensitive and supportive way, the ED encounter may be the first step toward healing. The local victim advocacy group should be notified, with patient permission, so that an advocate can come to the ED to provide support, crisis intervention, and information to the patient.

Medical Stabilization and Management of Physical Injuries

Injuries related to the assault, such as soft tissue injuries and fractures, should be treated appropriately. The advanced trauma life support protocol should be followed when assessing a trauma patient. Nearly 20% of sexual assault victims require medical procedures or interventions. Tetanus prophylaxis should be considered in patients with violation of skin integrity who have not had a booster within 10 years. After treatment of the physical injuries, the focus should transition to emergency contraception, STD prophylaxis, and risk assessment for nPEP. Table 128.1 lists the recommended prophylaxis regimen for sexual assault patients. Forensic evaluation and evidence collection follow suit.

Emergency Contraception

Overall, the risk for pregnancy following sexual assault is 5%. The risk varies throughout the menstrual cycle, as shown in Table 128.1. Regardless of where she is in her cycle, following a negative pregnancy test, all females of childbearing age with a report of sexual assault should be offered emergency contraception (see Chapter 129 for further details).

Sexually Transmitted Disease Prophylaxis

The risk of acquiring an STD following a sexual assault is significant, with reported rates of 4% to 56%, depending on the circumstances of the assault. Given the difficulty in accurately assessing risk, as well as poor compliance with follow-up visits in this patient population, which has been estimated to be 10% to 35%, empiric prophylaxis should be offered routinely to these patients. STD prophylaxis should be guided by the 2010 Centers for Disease Control and Prevention (CDC) guidelines and includes dispensation of medication for prophylaxis against Neisseria gonorrhoea, Chlamydia trachomatis, Trichomonas vaginalis, BV, hepatitis B, and HIV in high-risk cases.

Table 128.1 includes the 2010 CDC-recommended regimen for STD prophylaxis after a sexual assault. Although the efficacy of these medications in preventing infections after sexual assault has not been evaluated, administration is still considered standard of care given the high single-exposure transmission rate in the case of a disease-positive assailant.

Screening for STDs in asymptomatic sexual assault patients is very controversial. Those in favor of not testing argue that a positive test represents preassault disease and could be used against a victim in court. Laws exist in every state that protect
Fig. 128.1  Emergency department management of patients after sexual assault. *BUN*, Blood urea nitrogen; *CBC*, complete blood count; *Cr*, creatinine; *HIV*, human immunodeficiency virus; *LFTs*, liver function tests; *nPEP*, nonoccupational postexposure prophylaxis; *STD*, sexually transmitted disease.

If the patient is seen in the ED days after the sexual assault with symptoms of active infection, including vaginal discharge or pelvic pain, a pelvic examination must be performed to assess for cervicitis and pelvic inflammatory disease. Cervical and vaginal cultures should be obtained and full treatment administered for symptomatic disease.

the victim’s previous sexual history, but if medical records are subpoenaed, the STD diagnoses may be discovered. As a result, the patient and clinician might opt to defer testing. The American College of Emergency Physicians states that in cases in which prophylaxis will be given, acute cultures are not necessary unless obvious signs of an STD are present.24,35
Nonoccupational Postexposure Prophylaxis for Human Immunodeficiency Virus Infection

The frequency of HIV seroconversion as a result of sexual assault is difficult to estimate but probably low. In consensual sex, the risk for HIV transmission from receptive penile-vaginal intercourse is 0.1% to 0.2% and for receptive penile-rectal intercourse is 0.5% to 3%. Various factors increase risk for HIV transmission, including trauma with resultant bleeding, site of exposure to the ejaculate, high viral load in the ejaculate, multiple assailants, and the presence of an STD or genital lesion in either party. 

nPEP has not been proved to be effective in decreasing transmission of HIV in cases of sexual assault but, instead, is extrapolated from health care workers with occupational exposure. As a result, a risk-benefit analysis must be performed to determine whether this therapy should be offered.
nPEP should be considered only if the exposure occurred less than 72 hours previously, and its efficacy is maximal when administered soonest after exposure.27 Absolute indications for starting nPEP include initial evaluation less than 72 hours after exposure to a known HIV-positive assailant with an exposure that carries substantial risk for transmission. This will rarely be the case because the majority of sexual assault patients do not know the HIV status of their assailant. Consequently, the clinician will have to make a case-by-case determination for starting nPEP based on the characteristics of the assault. The EP should consult with an ID specialist to decide whether therapy is indicated and which regimen would be most appropriate given the assault-specific details. If one is not readily available, assistance with nPEP-related decisions can be obtained by calling the National Clinician’s Post-Exposure Prophylaxis Hotline (PEP line) at (888) 448-4911.24 When the decision is made to administer nPEP, the first dose should be given as soon as possible and prophylaxis continued for 28 days. nPEP is not recommended for patients initially evaluated more than 72 hours after exposure because the risks associated with the medications outweigh the benefits by this time.27 Table 128.1 includes the CDC-recommended regimen for nPEP after a sexual assault.

Prescriptions
As illustrated in Table 128.1, sexual assault patients may be administered multiple medications during the ED visit, the majority of which require only one dose. The exceptions are doxycycline and nPEP. If doxycycline is chosen for Chlamydia prophylaxis, a prescription for a 7-day course should be given. For nPEP, the CDC recommends a 3- to 5-day starter pack to last until the follow-up visit, at which time an additional prescription can be given if appropriate.24,27 If the patient has consumed alcohol in the last 48 hours, she should not be administered metronidazole (Flagyl) in the ED. She should be sent home with the dose or given a prescription so that she can take it when outside the window of a disulfiram-type reaction.

FOLLOW-UP, NEXT STEPS IN CARE, AND PATIENT EDUCATION
After all medical treatment and forensic evaluation are complete, the patient’s environment should be assessed for safety. The SAFE or hospital social worker can help the patient identify resources if she feels unsafe returning home. If deemed safe for discharge, a hospital aftercare packet should be given to the patient because victims of traumatic events frequently cannot remember the events immediately following a crisis. She should be given contact information for the rape crisis center or hospital counseling services because the mental health morbidity associated with sexual assault is profound.32

Within 1 to 5 days of the ED visit, the patient should follow up with an ID specialist for testing for HIV, hepatitis B and C, and syphilis. Additional counseling and support can be offered in addition to assessing for medication adherence and side effects if nPEP was started in the ED. The rest of the 28-day course of medication should then be prescribed or an altered regimen recommended if indicated by side effects. Two weeks after the ED visit the patient should follow up for STD screening. Four weeks after the ED visit the patient should follow up for pregnancy testing and receive the second dose of the hepatitis B vaccine if applicable.24,36

Note that management of pediatric sexual abuse varies significantly from the management of adult sexual assault outlined in this chapter.

SUGGESTED READINGS

REFERENCES
References can be found on Expert Consult @ www.expertconsult.com.
REFERENCES


34. Parekh V, Brown CB. Follow up of patients who have been recently sexually assaulted. Sex Transm Dis 2003;30:28-33.
