Chapter 9
Sexual Assault

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Definitions

Sexual Assault A broad term defined as any sexual act performed by an assailant or assailants on another person without the victim's consent. These acts include genital, anal and/or oral contact, contact through clothes, and contact by a part of another's body or by an object, including forced kissing, or groping. Acute assault is defined as an assault occurring within 5 days or 120 h of presentation.

Rape Any assault by a person involving vaginal, anal or oral penetration of another person without that person's consent.

According to the Centers for Disease Control and Prevention (CDC) close to one in five women (19.3 %) in the United States have been victims of rape at some time in their lives, which encompasses completed forced penetration, attempted forced penetration, or completed penetration facilitated by alcohol or drugs [1]. Of these, 45.4 % of the female

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victims endorsed being raped by an intimate partner and 46.7 % by an acquaintance. Most female victims of completed rape were first raped before 25 years of age (78.7 %), while 40.4 % were first raped before 18 years of age [1].

Sexual Assault Nurse Examiner (SANE) Given the need to standardize and optimize care of victims of sexual assault, gynecologists are often not first responders for the acute evaluation of a sexual assault survivor in most parts of the United States [2]. Acute evaluation of a stable patient in the emergency room may be performed by the sexual assault nurse examiner (SANE), a specially trained forensic nurse. The first SANE programs were initiated in the late 1970s and today have expanded to up to 700 programs across the United States [2, 3].

These nurses document forensic evidence of the sexual assault, provide medical care, assure that prophylaxis against sexually transmitted infections and emergency contraception are ordered, facilitate psychological support for survivors, and participate in the prosecution of sexual assault through expert testimony [4]. A gynecologist may be asked to examine a patient who has been sexually assaulted without a SANE if the patient declines SANE involvement or no SANE is available. Given the high incidence of sexual assault, gynecologists should have an understanding of the acute evaluation of sexual assault victims, including its complexity and challenges.

When You Arrive Review a full set of vital signs and quickly assess for injuries. Ensure that pain is addressed. Of note, in institutions where a SANE program is present, the SANE is paged right away and is expected to present within 1 h. If the SANE is not available, it is the responsibility of the emergency department team to conduct the medical forensic examination.

Assessment of Safety Consider the safety and anonymity of the patient. Evaluate for the need to protect the patient's identity, for example, by making the patient's hospital admission status not available to outside callers.

Registration A patient should be asked if her insurance can be billed for the visit and should be aware that an explanation of

benefits will be sent to the holder of the insurance policy. In the event the patient does not wish to have her insurance billed, hospital registration can provide options.

History

In situations in which a SANE is involved, the history and physical and forensic evaluation are performed with the SANE in conjunction with members of the health care team, in order to (1) minimize the number of times a patient must recount her experiences, (2) obviate repetitive physical exams, and (3) ensure that evidence collection is not compromised.

If the attack occurred less than 120 h prior, the documentation provided in the evidence collection kit should be used. After 120 h since the attack, the following is the suggested documentation:

Obtain a detailed history of the assault, including the date, time, and location of the assault and record the patient's exact words whenever possible, using quotation marks. Record the number of assailants and their physical descriptions if known. Clarify the nature of the assault, including oral, vaginal, and/or anorectal contact or penetration, the use of force or coercion and the use of alcohol or illicit drugs before the assault. Finally, ask the patient whether she showered, bathed, otherwise cleaned herself, ate, or brushed her teeth following the assault. In summary, address the following questions: (1) what happened, (2) when did this happen, (3) where did this happen, (4) who did this to you, (5) what hurts, and (6) what are your concerns? Facilitating a supportive and comfortable environment for the survivor is important, and survivors should not be pressured into providing details that they do not feel comfortable discussing.

Beyond the assault, a complete medical, obstetric, and gynecologic history should be obtained. The survivor's last consensual sexual intercourse before the assault should be recorded, which is particularly crucial in analyzing collected

specimens for DNA evidence [5]. The patient's vaccination history should be reviewed, including hepatitis B and tetanus.

Consent

Obtain verbal and written consent for the physical exam and evidence collection, as dictated by the medical institution and jurisdiction; providers should be aware of complexities in obtaining consent from minors or patients with intellectual disability [6]. Evidence should not be collected unless a patient is able to consent.

Consent should be obtained for medical care, including general care, pregnancy and sexually transmitted infection (STI) testing, human immunodeficiency virus (HIV) and STI prophylaxis, photographic documentation, and permission to contact the patient later regarding her medical care.

Regarding evidence collection, in addition to the forensic exam, consent is also required for notification of law enforcement and toxicology screening [6]. Law enforcement can subpoena the patient's medical record without consent.

Physical Examination

The physical examination can understandably be a very difficult part of the evaluation for the patient in the setting of an acute or prior assault. It is essential that patients feel empowered during their examination process, which should proceed at a comfortable pace for the patient, and every step should be clearly explained [5].

The provider should document the demeanor of the patient, avoiding adjectives and instead describing the patient's affect and behaviors, such as "The patient is squeezing a pillow, rocking in her chair." This description can be used as evidence in legal proceedings. Assess the patient for signs of drug or alcohol effects, including but not limited to memory loss, slurring, drowsiness, and/or compromised motor

function [5]. If the patient is impaired, consent cannot be obtained until the patient is deemed to be of sound mind. During the physical exam, consider ways to ensure evidence preservation, such as asking the patient to undress for the examination with a sheet underneath her, to collect any debris as evidence, after which the sheet would be folded and submitted as evidence.

A full head-to-toe exam is important in order to assess for concurrent injuries, including genital and extragenital findings and trauma. A light source such as a Wood's lamp can be used to identify debris and semen on the skin. In women, evaluation of the skin, breasts, external genitalia, vagina, anus, and rectum should be performed, keeping in mind that a patient can decline any part of the exam. In cases of oral assault, inspection of the palate, frenulum, and dental condition is required. Careful documentation of trauma can strengthen a patient's legal case and corroborate her account of events; extragenital trauma such as bruises, abrasions, erythema, and edema is seen more often than anogenital trauma [7]. If genital trauma occurs, it is found most commonly in the posterior fourchette and is more common in postmenopausal women and minors [5].

A SANE will sometimes perform colposcopic evaluation in order to detect subtler genital trauma, more often in children. Colposcopes and Wood's lamps are not routinely used by gynecologists for acute evaluation of sexual assault survivors, and there is limited data on the use of these tools by gynecologists in sexual assault evaluation.

Forensic Evaluation

Assault survivors have the right to decline forensic evaluation. Forensic evidence is most helpful when collected within 72 h of the assault [5]. Of note, forensic evidence of oral or anal assault is only collected if the assault occurred within 24 h prior to the patient's presentation.

The forensic exam includes collection of the victim's clothing, swabs, or smears as dictated by the history of the assault—including external genitalia, vagina, cervix, anus, mouth, or any other area that the assailant's bodily fluids may have been deposited—scalp and pubic hair, fingernails, and photographic documentation [5]. Reference samples should be collected, including blood and pulled scalp and pubic hair. The evidence should be collected and stored carefully and securely, assuring a robust chain of evidence and in accordance with local and national protocols to maintain credibility in the court of law.

Management

The patient's physical injuries should be addressed. In addition, her psychological and emotional health requires attention, and patients may benefit from consultation with social work, referral to support or advocacy groups, and education of family members or support people, as appropriate.

Sexually Transmitted Infections

The CDC recommends that decisions regarding testing for STIs be made on an individual basis [1]. The decision of whether to test for STIs may be influenced by low likelihood of post-assault follow-up, which limits the utility of a test-and-treat approach, determination of chronology of infection (i.e., the infection may have predated the assault), and potential legal ramifications of test results [8].

Chlamydia, Gonorrhea, and Trichomoniasis

In the initial examination, testing adult victims of sexual assault for *Chlamydia trachomatis* and *Neisseria gonorrhoeae* can be performed using nucleic acid amplification tests (NAATs) at the site of penetration or attempted penetration.

In children, cultures are preferred, given the serious ramifications of a false-positive result [8]. In adults, examination of a vaginal swab spread on a slide with application of normal saline or potassium hydroxide—also called a wet mount—can also be considered, particularly in the presence of abnormal vaginal discharge, for the evaluation of *Trichomonas vaginalis*, in addition to bacterial vaginosis and candidiasis. The presence of sperm can also be noted.

Ultimately, however, the CDC recommends presumptive treatment of STIs, given the difficulty patients may have in attending follow-up visits after sexual assault. If a patient elects to take prophylaxis against common STIs, the antibiotic regimen should address *C. trachomatis, N. gonorrhoeae* and *T. vaginalis*. For this purpose, the CDC recommends ceftriaxone (250 mg IM once) plus azithromycin (1 g PO once) plus metronidazole (2 g PO once) or tinidazole (2 g PO once) [8].

Hepatitis B

While there is little data specifically addressing the risk of hepatitis B transmission during a sexual assault, immunization should be considered for sexual assault survivors at the time of the initial examination if they have not been previously vaccinated [9]. Baseline testing for immunity (HBsAb) should be sent when the first dose is given. Additional doses are given 1 month and 2–6 months after the first dose, for a total of 3 doses. If the assailant is known to be infected with hepatitis B, immunoglobulin can be considered.

HIV

HIV testing should be performed after sexual assault. Rapid antibody testing should be used when possible, which, if positive, can be confirmed with an enzyme-linked immunosorbent assay (ELISA). Positive results within 3 weeks of an assault indicate that infection predated the assault [5].

In HIV-negative women, HIV post-exposure prophylaxis (PEP) is crucial in areas with high prevalence of HIV but is controversial in low-prevalence areas. The risk of transmission depends on the likelihood of the assailant carrying HIV, the number of assailants, the occurrence of anal penetration (which carries a higher risk of transmission) and/or ejaculation, and whether genital lesions are present or other genital injury [5].

PEP should be started within 72 h and should be managed by an infectious disease specialist, as several treatment regimens exist and recommendations may vary by region [8]. Common regimens include (1) stavudine 40 mg and lamivudine 150 mg, each twice daily, or (2) zidovudine 300 mg and lamivudine 150 mg, each twice daily, or (3) tenofovir 300 mg and emtricitabine 200 mg, each once daily; a protease inhibitor may be added to any of these regimens, largely determined by specialist recommendations for an individual patient [5]. The recommended course is 28 days. Patients should be clearly counseled regarding the importance of medication adherence, the side effects (particularly nausea), and that PEP reduces but does not eliminate the risk of HIV transmission [5]. Alternatively, the CDC advises that a limited course of 3–7 days of PEP can be provided to patients who wish to return for HIV testing and/or counseling [8]. Following sexual assault, HIV-negative women should return for testing in 6 weeks and 3 months, and patients should use condoms during sexual activity until 3 months have passed [5].

Tetanus

In patients with open wounds and who have not been vaccinated within 10 years, booster shots of anti-tetanus toxoid should be given [5].

Human Papillomavirus (HPV)

HPV vaccination is recommended for female survivors of sexual assault from the age of 9 years to 26 years. The first dose should be given at the time of the assault, with additional doses 1–2 months and 6 months later, for a total of 3 doses [7].

Pregnancy

Reproductive-age women should have a baseline pregnancy test even if they are using contraception. A positive test within 5 days of assault indicates that the pregnancy predated the assault [10].

Although risk of pregnancy from assault is thought to be low, emergency contraception (EC) is recommended if assault could result in pregnancy in the survivor. EC should be initiated as soon as possible, and can be administered up to 5 days (120 h) after assault, depending on the method (Table 9.1). Emergency contraceptive regimens include (1) levonorgestrel (a progesterone-only pill) in a single oral dose of 1.5 mg, up to 120 h after assault; (2) ulipristal acetate (an antiprogestin) in a single 30 mg oral dose, up to 120 h after assault; (3) multiple combined estrogen-progesterone pills in 2 doses, with the number of pills depending on the formulation used, with administration of the first dose up to 72 h after assault; and (4) a copper intrauterine device (IUD), which may be inserted up to 120 h after assault and remain in situ for up to 10 years [11]. Success rates of levonorgestrel and ulipristal may be lower in obese women, though both regimens are acceptable to prescribe to obese women [12].

When considering any contraceptive intervention, consult the CDC recommendations for medical eligibility of contraceptive use [13].

TABLE 9.1 Summary of options for emergency contraception (EC) in the United States

Method	Mechanism of action	Considerations	Dose	Efficacy	Contraindications
Ulipristal acetate	Delays or prevents ovulation		30 mg PO once, within 120 h of exposure	Failure rate <2 %	Confirmed pregnancy
Levonorgestrel (progesterone-only pill)	Delays or prevents ovulation	Provide antiemetics for side effects of nausea and vomiting Retake dose if vomiting within 2–3 h of administration	1.5 mg PO once, within 120 h of exposure Alternatively, 0.75 mg PO every 12 h for 2 doses, associated with more nausea	Failure rate <2.5 %	Confirmed pregnancy Contraindications to progesterone contraception likely do not apply given short treatment duration. See CDC Medical Eligibility Criteria for Contraceptive Use, Appendix D
Combined estrogen-progesterone	Delays or prevents ovulation	Provide antiemetics for side effects of nausea and vomiting Retake dose if vomiting within 2–3 h of administration	Each dose should contain 100 mg of ethinyl estradiol and 0.5 mg levonorgestrel, given 12 h apart for 2 doses. The first dose is given within 72 h of exposure	Failure rate of 3.2 % Less effective than levonorgestrel, and should be considered only if other options are unavailable	Confirmed pregnancy Contraindications to estrogen-containing contraception likely do not apply given short treatment duration. See CDC Medical Eligibility Criteria for Contraceptive Use, Appendix D

Copper intrauterine device (IUD)	Oocyte toxicity, inhibition of sperm function, endometrial inflammation	Ideal for women also seeking long-term contraception Recommend testing for *Chlamydia trachomatis* and *Neisseria gonorrhoeae* at time of insertion Significantly higher cost compared to other forms of EC	Intrauterine device, within 120 h of exposure. Efficacious for up to 10 years	Most effective form of emergency contraception, with failure rate of 0.09 %	Confirmed pregnancy Cancer of genital tract Uterine malformation Copper allergy Mucopurulent cervicitis

From Li et al. [11], Glasier et al. [12], Centers for Disease Control and Prevention (CDC) [13]

Aftercare

As part of discharge planning, the safety of the patient's home should be assessed; referral to a shelter should be provided as needed. Follow-up should be established for repeat STI testing as indicated [7]. Management of HIV post-exposure prophylaxis with a specialist should also be established. Routine gynecologic care should be established or continued.

Routine aftercare is important, as survivors are at risk of difficulty with sexual function, tolerating pelvic examinations, posttraumatic stress disorder (PTSD), anxiety and depression, among other complications [14]. Patients may benefit from emotional support through advocacy groups in the community or from referral to counselors specializing in treating victims of trauma.

Legal Considerations

Laws regarding sexual assault reporting vary by state. In general, the patient has the right to decide whether to report the crime, and the district attorney's office decides whether to press charges. Sexual assault or suspected sexual assault of minors and the elderly requires mandatory reporting by the provider in all states. Health-care providers involved in the acute evaluation of survivors can be called to testify in court.

In order to preserve forensic evidence for legal proceedings, a strict chain of custody must be maintained. The forensic evidence kit should be secured and sealed in a locked refrigerator with a completed log book; organization and state protocols should be followed in the transfer of evidence to law enforcement agents if applicable. A kit may be collected while a patient is still undecided regarding whether to involve law enforcement; the timing for submission of an evidence kit to law enforcement varies by jurisdiction and can extend to 10 years [5].

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