Sexual Assault in Postpubertal Adolescents and Adults

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SEXUAL ASSAULT IN POSTPUBERTAL ADOLESCENTS AND ADULTS

Definition

The definition of sexual assault varies but involves all non-consensual sexual acts, ranging from fondling to penetration. For the purpose of these guidelines, as is relevant to the potential transmission of sexually transmitted infections (STIs), the definition will include complete or partial penetration by a penis of the mouth, anus and/or vagina, although it is noted that contact of the mouth with the external genitalia or anus could potentially transmit herpes simplex virus (HSV) infections.

Epidemiology

Both females and males of any age may be affected by sexual assault. Incidence varies by geographic location and appears, in some studies, to have a seasonal distribution, with peaks occurring in the summer.[1,2] In the majority of assaults, the victims are young females, but 5–6% of assaults are reported among males.[3] Assaults by acquaintances have been estimated to occur at least as often as assaults by strangers and may be underreported.[4]

Canadian data show that 16% of all women (1.7 million) have been involved in at least one incident of sexual or physical assault by a date or boyfriend by the age of 16, and 24% of women 18–24 years had been sexually and/or physically assaulted by a date or boyfriend.[5] According to Canadian crime statistics, male-against-female violence was the most common type of overall violence but the least likely to involve a stranger.[6] In 76.8% of reported cases, the woman knew her assailant. In 28.9% of reports, the woman was assaulted by her spouse/ex-spouse.

Gonorrhea, chlamydia and trichomoniasis are the most frequent infections identified in women who give a history of sexual assault.[7–9] The peak age incidence of sexual assault victims corresponds with the peak age incidence of many STIs, so their presence does not necessarily indicate acquisition as a result of the assault.[8]

Prevention

Most sexual assaults cannot be prevented, but becoming aware of situations that can make sexual assault more likely and taking preventative steps is of primary importance. Such steps can include measures to remain safe (i.e., at home or while driving), and the avoidance of situations whereby a perpetrator may use alcohol or drugs to impair the victim's ability to resist the assault.

Evaluation

Victims may be reluctant to disclose that they have been sexually assaulted for a variety of reasons, including fear of becoming involved in the criminal system; fear of not being believed or fear of retribution; feelings of guilt, shame or self-blame; or a desire to forget the event. Despite this reluctance to disclose events surrounding the assault, these victims may present for medical attention because of concerns about pregnancy, STIs or injury.[10] In addition, they may present with post-traumatic stress, depressive symptoms, alcohol or substance abuse, or self-harm.[11]

Assessment and follow-up of sexual assault victims should be carried out with great sensitivity and in conjunction with local teams or services experienced in the management of victims of sexual assault.

Documentation

Clear and complete documentation of history, physical examination findings and specimen collections should be made.

History

History taking should include the date, location and time(s) of the assault(s); what is known about the (alleged) perpetrator(s) (e.g., relationship to the victim, known injection drug use etc.); orifice(s) that have been penetrated and condom use; sexual history before and after the assault; past medical history (e.g., gynecological, menstrual and contraceptive history); current medications; immunization history; if a shower or bath was taken after the assault; if clothing was changed; and available support systems for the patient. Extensive interviewing about the details of the assault should be left to law-enforcement agencies, as this may adversely affect the forensic interview.

Physical exam

Injuries requiring immediate attention should take precedence over any other examination. Ideally, the patient should be asked to disrobe completely, and if forensic specimens are to be collected, this should be done while standing on an open sheet (to collect evidence that may fall off). All clothing worn during the assault should be collected in separate labelled plastic bags. The patient should put on a gown so that a complete examination for bruises and other injuries can be performed. All injuries (including those seen on genital examination) should be accurately documented on body-map diagrams. It is important to look for petechial hemorrhages on the palate if there was a history of forced oral penetration. Colposcopy and photography rarely provide any useful information and may produce unnecessary distress.[7,12]

Specimen Collection and Laboratory Diagnosis

The decision to obtain genital or other specimens for the diagnosis of STIs or blood-borne pathogens (BBPs) should be made on a case-by-case basis. Since baseline diagnostic testing for STIs and BBPs facilitates optimum medical management of the victim, this is strongly recommended whenever possible. It may be appropriate, however, to inform the individual that the results of any test for an STI will become part of his/her medical record, and in the case of a sexual assault could be brought into evidence in a court proceeding.

Wherever possible, baseline screening for common STIs should be performed due to the significant incidence of pre-existing STIs among women who present after sexual assault and the smaller but significant incidence of acquisition of STIs resulting from rape. Baseline testing also facilitates recommended follow-up (e.g., test of cure in pregnant women) if an STI is identified. When it is not possible to screen for all STIs, a minimal investigation should include testing for *Neisseria gonorrhoeae* and *Chlamydia trachomatis*.

Speculum examination should be performed in females, including postpubertal females, whenever possible. If it is not possible to pass a speculum, blind vaginal sampling, together with urethral and/or urine nucleic acid amplification tests (NAATs), are advised.

Wherever possible, the (alleged) perpetrator(s) should also be screened.

All specimens for forensic evidence should be collected by professionals experienced in these procedures and should follow established regional/local protocols (see *Appendix F*). It should be noted that most forensic kits do not contain tests for STIs or BBPs. They are useful in the identification of semen or other body fluids, forensic DNA analysis, microscopic hair examination, textile damage assessment and examinations involving fibres and other types of trace evidence. These, in turn, may be used to establish that some form of association occurred between the victim and the accused, that sexual contact occurred and/or that the assault was violent or forceful, thereby indicating lack of consent. All isolates and specimens should be retained in case additional or repeated testing is required.

Table 1. Initial visit: postpubertal children/adolescents/adults

Sexually transmitted infection	Recommended specimen type
Gonorrhea (see *Gonococcal Infections* chapter)	• Gram stain (for Gram-negative intracellular diplococci) if available, should be taken • Culture from all penetrated (partially or fully) orifice(s) and urethra in males and females should be taken • A molecular diagnostic test, preferably a NAAT, should also be performed on specimens collected from the urethra (males), endocervix/urethra (females), urine (males and females), as appropriate. This test is generally more sensitive than genital culture and may be acceptable for medico-legal purposes if confirmed by a second set of primers or, in some cases, a second test sent to another laboratory. Note that a NAAT should not be performed on pharyngeal specimens, and referral to the manufacturer's guidelines is recommended for testing of rectal specimens • Since culture tests collected <48 hours after exposure may be falsely negative, they should be repeated in 1–2 weeks after exposure if prophylaxis is not offered; a postexposure NAAT can be taken at the time of presentation without waiting for 48 hours; this is based on expert opinion, which assumes that NAATs are able to detect inoculum (DNA or RNA).
Chlamydia (see *Chlamydial Infections* chapter)	• Molecular diagnostic tests, especially NAATs, are more sensitive than culture and should be performed whenever possible on urine (males and females), urethral (males) or cervical (females) specimens. Urine testing may make testing more acceptable to some individuals • Cultures have been the preferred method for medico-legal purposes, but NAATs may be acceptable if the positive results are confirmed by a second set of primers or, in some cases, a second test sent to another laboratory. NAATs have not been adequately evaluated for throat and rectal specimens • If available, both tests (culture and NAAT) should be performed • Since culture tests collected <48 hours after exposure may be falsely negative, they should be repeated 1–2 weeks after exposure if prophylaxis is not offered; a postexposure NAAT can be taken at the time of presentation without waiting for 48 hours; this is based on expert opinion, which assumes that NAATs are able to detect inoculum (DNA or RNA).

NAAT = nucleic acid amplification test

Table 1. Initial visit: postpubertal children/adolescents/adults (continued)

Sexually transmitted infection	Recommended specimen type
Trichomoniasis	• If available, wet mount and/or culture for *Trichomonas vaginalis*
Syphilis (see *Syphilis* chapter)	• A non-treponemal test (e.g., RPR, VDRL) and a treponemal test (e.g., TP-PA) should be performed • Both the treponemal and non-treponemal tests should be repeated at 12 and 24 weeks after exposure. In some instances (e.g., a high-risk assailant; see *Syphilis* chapter) and in areas experiencing outbreaks of syphilis, it may be appropriate to repeat tests 2–4 weeks post-assault
Hepatitis B	• If the individual is known to be immune to hepatitis B (anti-HBs P10 IU/L) or HBsAg-positive, then no testing is required • Baseline antibodies to HBsAg should be collected when hepatitis B immune status is unknown
HIV	• Baseline HIV antibody testing should be performed • HIV antibody testing should be repeated at 6, 12 and 24 weeks following significant exposures
Hepatitis C	• Baseline HCV antibody is optional, since transmission of HCV is low via sexual contact. Testing may be considered if the (alleged) perpetrator(s) is/are at high risk for hepatitis C (e.g., known injection drug user[s]) and significant trauma has occurred with the assault • If baseline testing is performed and is negative, HCV antibody testing should be repeated at 12 and 24 weeks following significant exposures

anti-HBs = hepatitis B surface antibody
HBsAg = hepatitis B surface antigen
HCV = hepatitis C virus
RPR = rapid plasma reagin
TP-PA = *Treponema pallidum* particle agglutination
VDRL = Venereal Disease Research Laboratory

Management and Treatment

Considerations for prophylaxis

- Offer prophylaxis if:
  - Unsure that the patient will be returning for follow-up.
  - It is known that the assailant is infected with a specific STI.
  - It is requested by the patient/parent/guardian.
  - The patient has signs or symptoms of an STI.
- In addition, it may be appropriate to routinely offer prophylaxis in situations where vaginal, oral or anal penetration has occurred, because most sexual assault victims do not return for follow-up visits.[8,13,14]
- It should be noted that the efficacy of antibiotic prophylaxis has not been studied in sexual assault; prophylaxis should be as recommended for treatment of specific infections (see chapters on specific infections for more information).

Table 2. Recommended prophylaxis for uncomplicated urogenital infections

(See chapters on specific infections for alternative treatment choices and non-genital infections.)

Sexually transmitted infection	Recommended prophylaxis
Gonorrhea	• Non-pregnant adults – **Cefixime** 400 mg PO in a single dose* *[A-I]* OR – **Ciprofloxacin** 500 mg PO in a single dose† *[A-I]* • Pregnant adults – **Cefixime** 400 mg PO in a single dose* *[A-I]*
Chlamydia	• Non-pregnant adults – **Azithromycin** 1 g PO in a single dose if poor compliance is expected *[A-I]* OR – **Doxycycline** 100 mg PO bid for 7 days *[A-I]* • Pregnant adults – **Amoxicillin** 500 mg PO tid for 7 days *[B-I]* OR – **Azithromycin** 1 g PO in a single dose if poor compliance is expected *[B-I]*

*Cefixime should not be given to persons with cephalosporin allergy or a history of immediate and/or anaphylactic reactions to penicillins.

†Quinolones may be considered as an alternative treatment option ONLY IF:

- antimicrobial susceptibility testing is available and quinolone susceptibility is demonstrated;

OR

- where antimicrobial testing is not available, a test of cure is essential.

Table 2. Recommended prophylaxis for uncomplicated urogenital infections (continued)

Sexually transmitted infection	Recommended prophylaxis
Trichomoniasis	• Treat only if positive test for trichomoniasis • All adults: **metronidazole** 2 g PO in a single dose[15] *[A-I]*
Syphilis	• Prophylaxis with azithromycin (given for prophylaxis against chlamydia) is no longer considered to be effective against incubating syphilis in light of the recent emergence of syphilis resistant to azithromycin. Prophylaxis with other agents may be considered if the patient is unlikely to return or there is a potentially high-risk source in an area experiencing an outbreak of infectious syphilis (see *Syphilis* chapter for more information) • If the recipient subsequently has reactive syphilis serology, he/she should be retreated with a recommended treatment agent for syphilis
Hepatitis B	• Prophylaxis for hepatitis B should be considered in all cases of sexual assault/abuse where the sexual acts have included anal or vaginal penetration or oral-anal contact without a condom or condom status is unknown and the source is not immune to hepatitis B (see *Table 1*). Oral-genital and oral-oral contact do not appear to be significant modes of transmission[16] • Recommended prophylaxis as outlined in the *Canadian Immunization Guide*, 2002[17] includes the following: – **HBIG** up to 14 days after exposure – A 3-dose course of **hepatitis B vaccine** at 0, 1 and 6 months following exposure or accelerated schedule as appropriate
Hepatitis C	• No PEP available
HIV	• HIV PEP is recommended when the assailant is known to be HIV-infected and significant exposure has occurred (e.g., oral, anal, and/or vaginal penetration without a condom or condom status unknown/broken)[18] • PEP may also be available on a case-by-case basis for other high-risk exposures (e.g., source a known injection drug user, multiple assailants and/or significant injury) and vaginal, anal or oral penetration has occurred • Recommendations vary by province, and the decision to offer PEP should be made in conjunction with an HIV specialist and/or provincial/territorial/regional protocols • If HIV PEP is used, it should be started as soon as possible — no later than 72 hours after exposure — and continued for 28 days[18]

HBIG=hepatitis B immunoglobulin
PEP=post-exposure prophylaxis

Pregnancy

- **If pregnancy is a possible result of the assault, the emergency contraceptive pill (ECP) should be considered[19]:**

Preferred	Alternative
• **Plan B: levonorgestrel** 1.5 mg PO as a single dose	• **Levonorgestrel** 0.75 mg PO bid x 2 doses if a single dose is not likely to be tolerated

- Treatment should be taken as soon as possible, up to 72 hours after exposure (efficacy declines after this, but some benefit may be achieved up to 120 hours after exposure).
- The ECP is more effective and better tolerated than the Yupze method.[20]
- **The ECP is contraindicated if there is evidence of an established pregnancy as confirmed by a positive pregnancy test.**
- For the two-dose regimen, Gravol 50 mg given 30 minutes before the second dose of levonorgestrel may prevent vomiting.

Other management issues

- If the patient consents, appropriate referral should be made as necessary and as available (e.g., to sexual assault teams, local police/Royal Canadian Mounted Police, psychological support, local victim support organizations etc.). Advise of the need to practice safer sex or abstain from sexual intercourse until infection has been ruled out and/or prophylaxis is complete.
- Offer tetanus toxoid if relevant (e.g., dirty wounds/abrasions sustained outdoors).

Reporting and Partner Notification

- **Every province and territory has statutes in place that require the reporting of child abuse.** Although the exact requirements may differ by province/territory, health professionals should be aware of local reporting requirements and procedures with respect to child abuse and other acts of maltreatment. If reasonable cause to suspect child abuse exists, local child protection services and/or law enforcement agencies should be contacted.
- An individual with a confirmed notifiable STI should be reported to provincial/territorial authorities as appropriate.
- Partner notification of individuals found to be infected with an STI should follow the recommendations in the relevant chapter.

Follow-up

- If no prophylaxis was taken, follow-up should be arranged for 7–14 days after the original visit to review available laboratory test results and to repeat an STI screen to detect infections acquired at the time of the assault that were not detected at the initial examination.
- Test of cure for specific infections should follow recommendations outlined in the relevant chapters.
- If empiric prophylactic therapy was given, follow-up should be arranged at 3–4 weeks.
- Arrange follow-up serologic testing as required (see *Table 1*).
- Review mental state and arrange appropriate referral to mental health services if necessary.