

### **Abstinence and Reduction of Number of Sex Partners**

The most reliable way to avoid transmission of STIs is to abstain from sex (i.e., oral, vaginal, or anal sex) or to be in a long-term, mutually monogamous relationship with an uninfected partner. Counseling that encourages abstinence from sexual intercourse is crucial for persons who are being treated for an STI (or whose partners are undergoing treatment) and for persons who want to avoid the possible consequences of sex completely (e.g., STI/HIV and unintended pregnancy).

### **Preexposure Vaccination**

Preexposure vaccination is one of the most effective methods for preventing transmission of some STIs. For example, because HBV infection is frequently sexually transmitted, hepatitis B vaccination is recommended for all unvaccinated, uninfected persons being evaluated for an STI. In addition, hepatitis A vaccine is licensed and is recommended for men who have sex with men (MSM) and illicit drug users (i.e., both injecting and noninjecting). A quadrivalent vaccine against human papillomavirus is now available and licensed for females aged 9–26 years.

### **Male Condoms**

When used consistently and correctly, male latex condoms are highly effective in preventing the sexual transmission of HIV infection and reduces the risk for other STIs, including chlamydia, gonorrhea, and trichomoniasis. Condom use might reduce the risk for transmission of herpes simplex virus-2 (HSV-2), HPV-associated diseases (e.g., genital warts and cervical cancer) and mitigate the adverse consequences of infection with HPV, as their use has been associated with higher rates of regression of cervical intraepithelial neoplasia (CIN) and clearance of HPV infection in women, and with regression of HPV-associated penile lesions in men. One recent prospective study among newly sexually active college women demonstrated that consistent condom use was associated with a 70% reduction in risk for HPV transmission.

The failure of condoms to protect against STI transmission or unintended pregnancy usually results from inconsistent or incorrect use rather than condom breakage. Patients should be advised that condoms must be used consistently and correctly to be effective in preventing STIs, and they should be instructed in the correct use of condoms. The following recommendations ensure the proper use of male condoms:

- Use a new condom with each sex act (e.g., oral, vaginal, and anal).
- Carefully handle the condom to avoid damaging it with fingernails, teeth, or other sharp objects.
- Put the condom on after the penis is erect and before any genital, oral, or anal contact with the partner.
- Use only water-based lubricants with latex condoms.
- Ensure adequate lubrication during vaginal and anal sex, which might require the use of exogenous water-based lubricants.
- To prevent the condom from slipping off, hold the condom firmly against the base of the penis during withdrawal, and withdraw while the penis is still erect.

### **Female Condoms**

Laboratory studies indicate that the female condom, which consists of a lubricated polyurethane sheath with a ring on each end that is inserted into the vagina, is an effective

mechanical barrier to viruses, including HIV, and to semen. A limited number of clinical studies have evaluated the efficacy of female condoms in providing protection from STIs, including HIV. If used consistently and correctly, the female condom might substantially reduce the risk for STIs. When a male condom cannot be used properly, sex partners should consider using a female condom. Female condoms are costly compared with male condoms. The female condom also has been used for STI/HIV protection during receptive anal intercourse.

### **Vaginal Spermicides and Diaphragms**

Vaginal spermicides containing nonoxynol-9 (N-9) are not effective in preventing cervical gonorrhea, chlamydia, or HIV infection (24). Furthermore, frequent use of spermicides containing N-9 has been associated with disruption of the genital epithelium, which might be associated with an increased risk for HIV transmission. Therefore, N-9 is not recommended for STI/HIV prevention. In case-control and cross-sectional studies, diaphragm use has been demonstrated to protect against cervical gonorrhea, chlamydia, and trichomoniasis; a randomized controlled trial will be conducted. On the basis of all available evidence, diaphragms should not be relied on as the sole source of protection against HIV infection. Diaphragm and spermicide use have been associated with an increased risk for bacterial urinary tract infections in women.

### **Condoms and N-9 Vaginal Spermicides**

Condoms lubricated with spermicides are no more effective than other lubricated condoms in protecting against the transmission of STIs and HIV. Use of condoms lubricated with N-9 is not recommended for STI/HIV prevention because spermicide-coated condoms cost more, have a shorter shelf-life than other lubricated condoms, and have been associated with urinary tract infection in young women.

### **Rectal Use of N-9 Spermicides**

Recent studies indicate that N-9 might increase the risk for HIV transmission during vaginal intercourse. Although similar studies have not been conducted among men who use N-9 spermicide during anal intercourse with other men, N-9 can damage the cells lining the rectum, which might provide a portal of entry for HIV and other sexually transmissible agents. Therefore, N-9 should not be used as a microbicide or lubricant during anal intercourse.

### **Nonbarrier Contraception, Surgical Sterilization, and Hysterectomy**

Sexually active women who are not at risk for pregnancy might incorrectly perceive themselves to be at no risk for STIs. Contraceptive methods that are not mechanical barriers offer no protection against HIV or other STIs. Women who use hormonal contraception (e.g., oral contraceptive) have in-trauterine devices (IUD), have been surgically sterilized, or have had hysterectomies should be counseled regarding the use of condoms and the risk for STIs, including HIV infection.

### **Emergency Contraception (EC)**

Emergency use of oral contraceptive pills containing levonorgestrel alone reduces the risk for pregnancy after unprotected intercourse by 89%. Providers who manage persons at risk for STIs should counsel women concerning the option for EC, if indicated, and provide it in a timely fashion if desired by the woman.