



Sexually Transmitted Diseases: The Cost of Free Love

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In 1918, when the Chamberlain-Kahn Act was signed into law, the newly established Division of Venereal Diseases within the Bureau of the Public Health Service tracked three specific venereal diseases: Syphilis, Gonorrhea, and Chancroid.¹ By 1950, the list expanded to include Granuloma Inguinale and Lymphogranuloma Venereum.² Today, the Centers for Disease Control and Prevention (CDC) reports on the three notifiable diseases, Chlamydia, Gonorrhea, and Syphilis as well as using other sources to report on Chancroid, Human Papillomavirus, Herpes Simplex Virus, and Trichomoniasis.³

Concerned Women for America's (CWA) 2011 report lists 49 sexually transmitted diseases (STDs) found during the course of a search for one definitive list of current STDs.⁴ Of those 49 STDs, two have multiple types and strains. Human Immunodeficiency Virus (HIV) has 65 types, subtypes, groups, and strains as of this writing. The HIV virus continues to mutate, especially with Circulating Recombinant Forms (CRFs) which occur when two subtypes combine⁵ to create a new hybrid virus.⁶ Human Papillomavirus (HPV) has 100 types of viruses, at least 40 of which can infect the genital areas of males and females,⁷ and 30 of those may cause cancer.⁸ In less than 100 years, there are more than 16 times as many STDs as in 1918.

As of 2008, the CDC estimated there are 19 million new STD infections each year, and almost half are in people between the ages of 15 and 24.⁹ In its 2000 report, *Tracking the Hidden Epidemics*, the CDC estimated that more than 65 million people in the United States are living with an incurable STD.¹⁰

STDs: A Comprehensive List

STDs may be caused by bacteria, viruses, parasites, fungi, or protozoa.¹¹ Of the 49 listed here, 14 are incurable. The diseases covered in this report are categorized as follows:

Bacteria (listed by disease with the pathogen in parentheses)

- Bacterial Vaginosis (*Gardnerella vaginalis*)
- Campylobacteriosis (*Campylobacter jejuni*)
- Chancroid (*Haemophilus ducreyi*)
- Chlamydia (*Chlamydia trachomatis*)
- Gonorrhea (*Neisseria gonorrhoeae*)
- Granuloma Inguinale (*Klebsiella granulomatis*)
- Lymphogranuloma Venereum (*C. trachomatis*)
- *Moraxella Catarrhalis* (pathogen is the same)
- *Mycoplasma genitalium* (pathogen is the same)
- *Mycoplasma hominis* (pathogen is the same)
- *Neisseria meningitidis* (pathogen is the same)
- Salmonellosis (*Salmonella* Enteritidis)
- Shigellosis (*Shigella*)
- Syphilis (*Treponema pallidum*)
- *Ureaplasma parvum* (pathogen is the same)
- *Ureaplasma urealyticum* (pathogen is the same)
- *Yersinia* (*Yersinia enterocolitica*)

Viruses (listed by the disease with the pathogen in parentheses)

- Adenovirus (pathogen is the same)
- Cytomegalovirus (pathogen is the same)
- Genital Herpes Simplex Virus 1 and 2 (HSV-1 and HSV-2) (pathogen is the same)
- Genital Warts (Human Papillomavirus)
- Hepatitis A Virus (pathogen is the same)
- Hepatitis B Virus (Acute & Chronic) (pathogen is the same)
- Hepatitis C Virus (Acute & Chronic) (pathogen is the same)
- Hepatitis D Virus (Acute & Chronic) (pathogen is the same)
- Hepatitis E Virus (Acute & Chronic) (pathogen is the same)
- Human Immunodeficiency Virus (HIV/AIDS) (HIV-1 & HIV-2) (pathogen is the same)
- Human Papillomavirus (HPV) (pathogen is the same)
- Human T-Cell Lymphotropic Virus Type I (pathogen is the same)
- Human T-Cell Lymphotropic Virus Type II (pathogen is the same)
- Kaposi's Sarcoma/Human Herpes Virus 8 (pathogen is the same)
- Molluscum contagiosum (pathogen is the same)

Parasites (listed by disease with the pathogen in parentheses)

- Pubic Lice (*Phthirus pubis*)
- Scabies (*Sarcoptes scabiei*)

Protozoa (listed by disease with the pathogen in parentheses)

- Amebiasis (*Entamoeba histolytica*)
- Cryptosporidiosis (*Cryptosporidium parvum*)
- Giardiasis (*Giardia lamblia*)
- Trichomoniasis (*Trichomonas vaginalis*)

Fungi (listed by disease with the pathogen in parentheses)

- Candidiasis (primarily *Candida albicans*)
- Tinea cruris (primarily *Trichophyton rubrum*)

Diseases with more than one pathogen

- Cervicitis (may be caused by bacteria, virus, or protozoa)
- Enteritis (may be caused by bacteria or protozoa)
- Epididymitis (may be caused by these bacteria: *N. gonorrhoeae* and/or *C. trachomatis*)
- NonGonococcal Urethritis (may be caused by bacteria, virus, or protozoa)
- Pelvic Inflammatory Disease (may be caused by these bacteria: *N. gonorrhoeae* and/or *C. trachomatis*, primarily, also *M. genitalium*, *M. hominis*, *N. meningitidis*, *U. parvum*, *U. urealyticum*)
- Proctitis (may be caused by bacteria or virus)
- Proctocolitis (may be caused by bacteria, virus, or protozoa)

Transmission

Some of the diseases mentioned in this report have transmission routes that are not primarily sexual, but sexual practices can spread the diseases. The practice of oral-anal sex (known as anilingus or “rimming”) provides a transmission route for enteric bacterial diseases such as

campylobacteriosis, shigellosis, salmonellosis, and yersinia, as well as protozoan infections such as amebiasis, giardiasis, and cryptosporidiosis; the more prevalent transmission route for these diseases is through contaminated food or water. Having anal sex and then immediately having oral sex may also transmit these diseases. The pornography industry promotes this type of sex and refers to it as “A** to Mouth” or “ATM.”

The practice of oral sex provides a transmission route for *Moraxella catarrhalis* from the respiratory tract, where it is normally found, to the genitourinary tract, causing urethritis.¹² *Neisseria meningitidis* is found in the nasopharynx, but oral sex introduces it to the genitourinary tract and the anal canal, causing diseases such as urethritis, cervicitis, and proctitis.¹³ In the opposite manner, oral sex introduces genital human papillomavirus to the throat, causing throat cancer¹⁴ and head and neck cancers.¹⁵

As the more detailed information in Appendix A states, some of these diseases are quite rare, especially in the United States. They are included in the report, as they still exist, and being rare does not mean someone could not contract it. With the prevalence of international travel, someone may contract a disease abroad that is considered rare in the U.S. but common in other countries and then transmit it to a sex partner in the U.S.

Whether the STD is rare or not, the person who acquires it may endure lifelong consequences. Appendix A details the complications of each disease, as well as an estimate of the number of people infected with it if it is reported. Of the 19 million new STD infections the CDC estimates occur in the United States each year, almost half of them are in young people. If they are infected but asymptomatic, they will not seek treatment, and that may lead to a lifetime of problems. In fact, the CDC recommends Chlamydia screenings for all sexually active women under the age of 25 in an effort to prevent infertility,¹⁶ as most women infected with it are asymptomatic. The cost of teenage promiscuity may be paid when they are adults and find out they cannot have children.

CDC Estimates

The CDC estimated in 2007 there were 9.1 million cases of STDs among 15-24-year-olds annually and 5,089 cases of HIV/AIDS among that age group.¹⁷ In the 2009 Youth Behavior Risk Surveillance Study, the STD estimate remained the same, but the HIV/AIDS estimate increased to 6,610.¹⁸ The CDC states, “Individuals who are infected with STDs are at least two to five times more likely than uninfected individuals to acquire HIV infection if they are exposed to the virus through sexual contact. In addition, if an HIV-infected individual is also infected with another STD, that person is more likely to transmit HIV through sexual contact than other HIV-infected persons.”¹⁹ In 2009, 87 percent of students were taught about HIV/AIDS in school,²⁰ and a 2006 study showed 88.2 percent of high schools in the United States required teaching STD prevention to high school students.²¹ It does not appear the prevention message taught in schools is effective.

A CDC study released in 2008 indicated that 26 percent of teenage girls between 14 and 19 had at least one of the following sexually transmitted diseases: HPV, Chlamydia, HSV-2, and trichomoniasis. They estimate there to be 3.2 million teenage girls in the United States with

these diseases — one of every four teenage girls. In the study, approximately half of the girls reported ever having sex. Of those girls, the prevalence of STDs was 40 percent. Of the girls who reported only one lifetime partner, 20 percent were infected with at least one STD; 50 percent of the girls with three or more partners had at least one STD.²² Promiscuity and having sex at a young age are high-risk behaviors for acquiring STDs.

The CDC states that adolescents are at a higher risk of acquiring an STD than adults due to behavioral, biological, and cultural factors.²³ The biological factor for girls is cervical ectopy, or the “transformation zone.” The cells in the transformation zone of the cervix are constantly changing, and that increases the risk for abnormal cells to develop. In adolescents, the transformation zone is on the immature outer surface of the cervix, which makes them more susceptible to catching sexually transmitted diseases.²⁴ Lois McGuire, a women’s health nurse practitioner, put it succinctly, “Adolescents and women throughout life are more at risk for contracting an STD due to the ecosystem of the vagina. The vagina is a warm, moist and dark environment. Just like we all learned in science, bacteria and viruses grow best in a warm, moist and dark environment.”²⁵

Females Disproportionately Infected

As the 2009 *Sexually Transmitted Disease Surveillance Report* shows, adolescent girls and young women are disproportionately infected with Chlamydia and Gonorrhea. There are only three reportable diseases in the United States — Syphilis, Chlamydia, and Gonorrhea. Chlamydia rates for girls ages 15-19 increased 1.8 percent between 2008 and 2009 to 3,329.3 per 100,000, and it increased for women ages 20-24 by 3.3 percent to 3,273.9 per 100,000. Boys in the age group of 15-19 saw an increase of 5.0 percent to 735.5 per 100,000, and men ages 20-24 saw a 6.0 percent increase to 1,120.6 per 100,000.²⁶ Girls are almost five times more likely to contract Chlamydia than boys, and young women are three times more likely to than young men.

The Gonorrhea rates for girls ages 15-19 decreased by 10.5 percent between 2008 and 2009 to 568.8 per 100,000, and it decreased 8.5 percent for women ages 20-24 to 555.3 per 100,000. Boys between ages 15 and 19 saw a decrease of 10.0 percent to 250.0 per 100,000, and men ages 20-24 saw a 6.1 percent decrease to 407.5 per 100,000.²⁷ In addition to the treatable forms of Gonorrhea, the CDC has tracked Antibiotic-Resistant Gonorrhea since 1986 and refers to it as “a growing public health concern.”²⁸ Catherine Ison, a specialist on Gonorrhea from the British Health Protection Agency said, “This is a very clever bacteria. If this problem isn’t addressed, there is a real possibility that Gonorrhea will become a very difficult infection to treat.”²⁹ Girls and young women are again more likely to contract Gonorrhea than are boys and young men.

Men Having Sex with Men

Syphilis cases are broken down into stages — Primary and Secondary (P&S), Early Latent, Late, Late Latent, and Congenital by the CDC. The rate of P&S syphilis declined dramatically, 89.7 percent, between 1990 and 2000, but has increased each year since 2001. Men having sex with men (MSM) accounted for 62 percent of the cases of P&S syphilis in 2009, but the CDC also said syphilis is an emerging problem among heterosexuals.³⁰ The CDC did not explain the emerging problem in the heterosexual community. The report did state the rate of P&S syphilis for MSM increased from an estimated seven percent in 2000 to 62 percent in 2009.³¹ The rate of

P&S for girls ages 15-19 in 2008 was 3.3 per 100,000, and for women 20-24 it was 5.6 per 100,000. The rate of P&S for boys ages 15-19 was 6.0 per 100,000 and for men 20-24 it was 20.7 per 100,000.

For men 25-29, the rate was 18.5 per 100,000.³² This is the only reportable STD that shows infection rates for males being higher than females.

Behavior and Youth

Behavior also plays a role in adolescent rates of STDs. The Mayo Clinic lists the risk factors that increase STD transmission at any age.³³ The list consists of:

- being sexually active
- becoming sexually active at a young age
- having high-risk sex (vaginal or anal sex without condom use)
- currently having an STD
- having a history of an STD
- having multiple sex partners throughout your life
- using alcohol or recreational drugs (which lowers inhibitions and impairs judgment)
- injecting drugs (acquiring diseases through injections and then transmitting through sex)
- being young
- being female
- being African-American
- having sex with men (this goes for men or women) and
- meeting people in public places or online for sex (casual, anonymous sex)

According to the CDC, “The most reliable ways to avoid becoming infected with or transmitting STDs are:

- Abstain from sexual intercourse (i.e., oral, vaginal, or anal sex)
- Be in a long-term, mutually monogamous relationship with an uninfected partner.”³⁴

The CDC also states on its Healthy Youth! webpage, “Abstinence from vaginal, anal and oral intercourse is the only 100% effective way to prevent HIV, other STDs, and pregnancy. The correct and consistent use of a male latex condom can reduce the risk of STD transmission, including HIV infection. However, no protective method is 100% effective, and condom use cannot guarantee absolute protection against any STD or pregnancy.”³⁵

The 2006 School Health Policies and Programs Study reported that 88.2 percent of high schools in the United States required teaching STD prevention to high school students.³⁶ Given students’ school instruction on STD prevention, the Mayo Clinic’s list of risk behaviors, and the CDC’s message that abstinence or long-term, monogamous relationships are keys to avoiding STDs, how did the nation’s youth do?

The national Youth Risk Behavior Survey in 2009 showed that 46 percent of 9th-12th graders had ever had sex; 5.9 percent of those had sex for the first time before the age of 13.³⁷ Almost 14 percent (13.8) had four or more sex partners during their lifetime, and 34.2 percent had at least one sex partner in the three months prior to the survey.³⁸ Only 61.1 percent used a condom during their last sexual encounter.³⁹ Considering the promotion of condom use in high schools, it is remarkable that almost 40 percent of these children ignored the message. The majority of the students had lessons on HIV and AIDS infections, with 87 percent receiving this type of instruction.⁴⁰ Promiscuous youth are engaging in risky behavior, and as the next study shows, so are promiscuous adults.

Behavior and Adults

The CDC's "Sexual Behavior and Selected Health Measures: Men and Women 15-44 Years of Age for 2002" showed that, among adults between the ages of 25 and 44, 97 percent of men and 98 percent of women had engaged in vaginal intercourse; 90 percent of men and 88 percent of women had engaged in oral sex with an opposite sex partner; 40 percent of men and 35 percent of women have had anal sex with a partner of the opposite sex; and 6.5 percent of men 25-44 years of age engaged in oral or anal sex with another man.⁴¹

This survey also showed that 20.7 percent of males aged 15-19 had 3-6 sex partners, 6.2 percent had 7-14 sex partners and 2.5 percent had 15 or more in their lifetimes. For the 20-24 year age group, 15.9 percent had 15 or more sex partners.⁴² For females, 19.1 percent in the 15-19 year age group had 3-6 partners, 5 percent had 7-14 partners and 1.9 percent had 15 or more in their lifetimes. The 20-24 year age group reported 32.2 percent with 3-6 partners, 14.4 percent with 7-14 partners and 6.9 percent with 15 or more.⁴³ Having multiple sex partners (promiscuity) is considered a high-risk behavior, and these young people have had many partners in such short lifetimes.

Condom Usage

Only 39.6 percent of all men and 22.2 percent of all women interviewed reported using a condom during their last sexual encounter. Those at higher risk for STDs had higher percentages of condom usage. For teens 15-19 years of age, 66.3 percent of males and 43.9 percent of females reported using them during their last sexual encounter, as did 87.8 percent of homosexual men, 75.7 percent of bisexual men, 91.1 percent of men who ever had sexual contact with a man, and 60 percent of people with two or more partners.⁴⁴

Given the inherent vulnerability of women in general and younger women in particular towards becoming infected with an STD, it is surprising that less than one-quarter of all women in the survey used condoms during their last sexual encounter. The younger women were more likely to have multiple sex partners in the prior 12 months; 7.5 percent of 15- to 17-year-olds had three or more partners, 16.8 percent of 18- to 19-year-olds and 11.5 percent of 20- to 24-year-olds.⁴⁵ The number of males aged 15-17 who had three or more sexual partners was seven percent (which was less than the females) and 18- to 19-year-old men had fewer, too, at 15.4 percent. Only the 20- to 24-year-old men reported a higher number for three or more partners than females with 19.3 percent.⁴⁶ The CDC reports that estimates show 15- to 24-year-olds make up about 25 percent of the population but acquire nearly half of the 19 million new cases of STDs

that occur annually.⁴⁷ While young men and women are engaging in risky behavior, they are not the only ones.

Men who have sex with men (MSM) are 46 times more likely to have P&S syphilis than other men and 71 times more likely than women. The CDC also reports they are 44 times more likely than other men and 40 times more likely than women to be diagnosed with HIV.⁴⁸ According to the CDC, in the period between 2001 and 2006, “male-to-male sex remained the largest HIV transmission category in the United States and the only one associated with an increasing number of HIV/AIDS diagnoses.”⁴⁹

The relationship between STDs and HIV/AIDS is connected both in acquiring and transmitting either. If a person has an STD, they are two-to-five times more likely to acquire HIV through sexual contact if they are exposed to the virus than an uninfected person. The CDC fact sheet also says people infected with HIV and other STDs are more likely to shed HIV in their genital secretions and thereby transmit it to their sex partners.⁵⁰

Opportunistic Infections

On the reverse side of the equation are opportunistic infections (OIs). “Recognizing that the relation between OIs and HIV infection is bidirectional is important. HIV leads to immunosuppression that allows opportunistic pathogens to cause disease in HIV-infected persons,” according to the CDC.⁵¹

The CDC’s list of OIs⁵² is lengthy and includes the following:

- *Pneumocystis* Pneumonia
- *Toxoplasma gondii* Encephalitis
- Cryptosporidiosis
- Microsporidiosis
- *Mycobacterium tuberculosis* Infection and Disease
- Disseminated *Mycobacterium avium* Complex Disease
- Bacterial Respiratory Disease
- Bacterial Enteric Infections (Salmonellosis, Campylobacteriosis, Shigellosis)
- Bartonellosis
- Syphilis
- Mucocutaneous Candidiasis
- Cryptococcosis
- Histoplasmosis
- Coccidioidomycosis
- Aspergillosis
- Cytomegalovirus Disease
- Herpes Simplex Virus Disease
- HHV-6 and HHV-7 Disease
- Varicella-Zoster Virus Diseases
- Human Herpesvirus-8 Disease
- Human Papillomavirus Disease
- Hepatitis B Virus Infection
- Hepatitis C Virus Infection
- Progressive Multifocal Leukoencephalopathy/JC Virus Infection

and some that are geographical such as:

- Malaria
- *Penicilliosis marneffei*
- Leishmaniasis
- Chagas Disease
- Isosporiasis

The list includes diseases that are sexually transmitted, as well as some that are not. The use of antiretroviral therapy (ART) has decreased OI-mortality to a degree, but OIs still remain the leading cause of morbidity and mortality in people with HIV.⁵³ The National Institute of Allergy and Infectious Diseases (NIAID) points out that people infected with HIV and on antiretroviral therapy can still infect other people through unprotected sex and needle sharing.⁵⁴

Sex ... Sans Protection

Unprotected sex may be one reason HIV/AIDS affects MSM at a much higher rate than other risk groups. The CDC reports that one of the risk factors for MSM is complacency about risk. “Additional challenges for many MSM include maintaining consistently safe behaviors over time, underestimating personal risk, and the false belief that because of treatment advances, HIV is no longer a serious health threat.”⁵⁵ Homosexual and bisexual men account for 48 percent of the more than one million people living with HIV in the United States and account for 53 percent of all new HIV infections each year. The CDC also estimates that MSM account for four percent of the population in the United States, but they have a 44 percent higher rate of being diagnosed with HIV than other males.⁵⁶

The transmission routes for HIV are vaginal, anal, oral, and oral-anal sex, although the oral and oral-anal rates of transmission are considered low according to Canada’s Public Health Agency.⁵⁷ The CDC ranked the per-act risk for HIV transmission during unprotected sex and found that insertive oral intercourse has a risk of 0.5 per 10,000 exposures; receptive oral sex doubles the risk to one per 10,000. Insertive penile-vaginal acts have a risk of five per 10,000 and receptive penile-vaginal intercourse doubles the risk to 10 per 10,000. Insertive anal intercourse has a risk of 6.5 per 10,000, but receptive anal intercourse is almost eight times riskier for exposure at 50 per 10,000 acts.⁵⁸ Unprotected anal sex is five times riskier than unprotected vaginal sex and 50 times riskier than unprotected oral sex.

Anal Sex: A Dangerous Way

Human physiology makes anal intercourse dangerous. Dr. John R. Diggs summarized it this way.⁵⁹

“Anal intercourse is the *sine qua non* of sex for many gay men. Yet human physiology makes it clear that the body was not designed to accommodate this activity. The rectum is significantly different from the vagina with regard to suitability for penetration by a penis. The vagina has natural lubricants and is supported by a network of muscles. It is composed of a mucus membrane with a multi-layer stratified squamous epithelium that allows it to endure friction without damage and to resist the immunological actions caused by semen and sperm. In comparison, the anus is a delicate mechanism of small muscles that comprise an ‘exit-only’ passage.

“With repeated trauma, friction, and stretching, the sphincter loses its tone and its ability to maintain a tight seal. Consequently, anal intercourse leads to leakage of fecal material that can easily become chronic. The potential for injury is exacerbated by the fact that the intestine has only a single layer of cells separating it from highly vascular tissue, that

is, blood. Therefore, any organisms that are introduced into the rectum have a much easier time establishing a foothold for infection than they would in a vagina. The single layer tissue cannot withstand the friction associated with penile penetration, resulting in traumas that expose both participants to blood, organisms in feces, and a mixing of bodily fluids.

“Furthermore, ejaculate has components that are immunosuppressive. In the course of ordinary reproductive physiology, this allows the sperm to evade the immune defenses of the female. Rectal insemination of rabbits has shown that sperm impaired the immune defenses of the recipient. Semen may have a similar impact on humans.

“The end result is that the fragility of the anus and rectum, along with the immunosuppressive effect of ejaculate, make anal-genital intercourse a most efficient manner of transmitting HIV and other infections.”

As the previously mentioned CDC study about sexual behaviors showed, anal sex is practiced by a significant portion of adults ages 25-44 in the study, 40 percent of males and 35 percent of females. The study also shows that 21.7 percent of males aged 15-24 have engaged in anal sex,⁶⁰ and 20.3 percent of females in the same age group have had anal sex.⁶¹ Future disease reports and studies will probably show increases in STDs acquired through anal sex for these demographics. It may also explain why young adults have such high rates of STDs. The “anything goes, do it if it feels good, express who you are” attitudes and actions are not without consequences. The appendices to this report show that anal sex is a transmission route for 33 of the 49 diseases listed here.

Oral (Really is) Sex

Oral sex is twice as prevalent as anal sex. The number of boys and men between the ages of 15-44 in the CDC study who report engaging in oral sex with females is 83 percent, and the number of females who engaged in oral sex with males is 82 percent.⁶² The number of males who reported engaging in oral sex with another male is 5.7 percent; there is no breakdown for the number of females engaging in oral sex with another female.⁶³ The appendices to this report show that oral sex (both oral and oral-anal) is a transmission route for 46 of the 49 diseases.

Oral sex is linked with throat cancer. An article on NewScientist.com reported, “People who have had more than five oral sex partners in their lifetime are 250 percent more likely to have throat cancer than those who do not have oral sex, a new study suggests.” The article says the study shows a link between HPV, oral sex, and throat cancer. The strain HPV-16 was shown to increase the likelihood of throat cancer by 58 percent. The article quoted Maura Gillison of Johns Hopkins as saying, “We need to add oral HPV infection to the lists of risks for oral cancer.”⁶⁴ Some people do not consider oral sex to be sex, but as these disease rates show, promiscuous oral sex is clearly a risky behavior.

A WebMD article reported on a news conference held by the American Association for Cancer Research in July 2009 and stated the following: “The experts agreed that it is critical for the public to understand that oral sex does not equal safe sex. The message was unofficially

promoted in the early days of the HIV epidemic, and it is still widely believed by many, especially teens. Studies suggest that teens are often unaware of the risks associated with unprotected oral sex, including the transmission of HPV, Chlamydia and Gonorrhea.”⁶⁵ With 88.2 percent of schools in the United States requiring STD prevention, how do they not know that being promiscuous is risky?

Mixed Messaging

Sex education classes in some schools have moved far beyond the basic information that used to be imparted. Students still learn how male and female bodies function and how pregnancy occurs, but they also learn about different sexual practices. Oral, anal, oral-anal, and vaginal sex are discussed, as well as inserting other body parts and foreign objects into the anus and vagina. Helena, Montana, gained notoriety in 2010 for proposing a sex education curriculum that teaches fifth graders to “understand that sexual intercourse includes but is not limited to vaginal, oral or anal penetration.” The next year, the sixth graders are taught the same with the addition of “using the penis, fingers, tongue or objects.”⁶⁶

The *Guidelines for Comprehensive Sexuality Education* distributed by the Sexuality Information and Education Council of the United States (SIECUS) mentions vaginal, oral, and anal intercourse in the Sexual Behavior Key Concept section and includes discussion of them as a topic with children as young as nine (Level 2) in the Sexually Transmitted Diseases sub-section.⁶⁷ The discussion is reiterated and expanded with Level 3 (ages 12-15) and Level 4 (ages 15-18). The Sexuality Throughout Life, Masturbation, Shared Sexual Behavior, and Human Sexual Response topics are covered with children beginning in Level 1 (ages five to eight), but the abstinence message does not begin until Level 2.⁶⁸ With messages like these given to children beginning at age five, is it any wonder 9.1 million adolescents have at least one STD?

The message for condoms in the *Guidelines* is mixed. In the Sexual Health section, it says, “Some methods of contraception, such as condoms, can also prevent the transmission of STDs/HIV.”⁶⁹ A few pages later it reads, “Proper use of latex condoms, along with water-based lubricants, can greatly reduce but not eliminate the chance of getting an STD.”⁷⁰ In the HIV/AIDS section it says, “Latex condoms can greatly reduce, but not eliminate, the risk of HIV transmission during intercourse.”⁷¹ In the STDs/HIV Checklist section, it says, “Condoms can be effective in preventing the spread of STDs/HIV; individuals should learn when and how to use them.”⁷²

The use of the phrase “prevent the transmission” in context with STDs can only be achieved in one way: abstinence. Merriam-Webster Dictionary defines prevention as, “to keep from happening or existing.” Condoms are not 100 percent effective for several reasons: user error, breakage or slippage, and inconsistent usage. Even if a condom were used during every single sexual act, used properly, and did not break or slip, the failure rates are still high. One medical source reports on the failure rates of condoms during vaginal sex to prevent these diseases, even if condoms are used each time: HPV — reduces risk by only half; Genital Herpes — reduces risk by half; Chlamydia and Gonorrhea — reduces risk by half; HIV/AIDS — reduces risk by 85 percent.⁷³ That is not prevention; it is risk reduction.

The CDC is clear with the when and how and also the effectiveness of condom usage. **“Consistent and correct use of the male latex condom reduces the risk of sexually transmitted disease (STD) and human immunodeficiency virus (HIV) transmission. However, condom use cannot provide absolute protection against any STD. The most reliable ways to avoid transmission of STDs are to abstain from sexual activity, or to be in a long-term mutually monogamous relationship with an uninfected partner. However, many infected persons may be unaware of their infection because STDs often are asymptomatic and unrecognized”**⁷⁴ (emphasis theirs).

Correct use of condoms may be a challenge for people, especially teens, during the heat of the moment, which may contribute to inconsistent use. Consider these use instructions from the CDC⁷⁵:

- Use a new condom for every act of vaginal, anal and oral sex throughout the *entire* sex act (from start to finish).
- Before any genital contact, put the condom on the tip of the erect penis with the rolled side out.
- If the condom does not have a reservoir tip, pinch the tip enough to leave a half-inch space for semen to collect. Holding the tip, unroll the condom all the way to the base of the erect penis.
- After ejaculation and before the penis gets soft, grip the rim of the condom and carefully withdraw. Then gently pull the condom off the penis, making sure that semen doesn't spill out.
- Wrap the condom in a tissue and throw it in the trash where others won't handle it.
- If you feel the condom break at any point during sexual activity, stop immediately, withdraw, remove the broken condom, and put on a new condom.
- Ensure that adequate lubrication is used during vaginal and anal sex, which might require water-based lubricants. Oil-based lubricants (e.g., petroleum jelly, shortening, mineral oil, massage oils, body lotions, and cooking oil) should not be used because they can weaken latex, causing breakage.

Now consider the Mayo Clinic's more comprehensive condom safety tips⁷⁶:

- Store condoms in a cool, dry place. Exposure to air, heat and light increases the chance that a condom will break. Don't keep condoms in a billfold, back pocket or glove compartment for an extended period of time. Friction, perspiration and changes in temperature can cause condoms to break down and become less reliable.
- Check the expiration date. Don't use a condom after its expiration has passed.
- Check condoms for damage — brittleness, small tears or pinprick holes — before using.
- With latex condoms, be sure to use only water-based lubricants, such as K-Y jelly. Don't use oil-based lubricants, such as petroleum jelly, baby oil, cooking oil or lotion. They can weaken a latex condom and cause it to break.
- Never reuse a condom. If a condom is inside out and does not unroll easily, don't flip it over because there may be semen in it. Use another condom.

- If you're concerned about preventing STDs, use a latex or polyurethane condom. Lambskin condoms don't protect against STDs as well as latex or polyurethane condoms do. Read the label on the package to see what the condom is made of and whether it's labeled for STD prevention.
- For the best protection from STDs, use a condom during any sexual activity, whether vaginal, oral or anal.

Can you imagine a sexually active teenager buying condoms, storing them in the appropriate temperature and environmental conditions, making sure his supply has not expired, stopping to examine a newly opened condom for tears or holes before a sex act and having proper and adequate lubrication available? Many adults do not go through all of those steps, and even if those steps are followed every single time someone has sex, the person will only *reduce* the risk of acquiring an STD or HIV, not eliminate it.

It is interesting that schools teach abstinence in relation to smoking and drinking, but many schools consider teaching abstinence in regards to sex to be dangerous. Schools do not promote harm reduction methods for smoking or drinking as they do with sex. With sex education, they tell students about abstinence in passing and then tell them if they are going to have sex, they should use condoms, dental dams, plastic wrap, etc., to "protect" themselves. Schools do not suggest filtered cigarettes if the children intend to smoke, nor do they offer non-alcoholic beer as an alternative for those wishing to drink. They teach that smoking and drinking are dangerous for all children. And, in many schools, they are removing soda machines and candy machines because they say soda and junk food are unhealthy for children. However, they hand out condoms at the nurse's office.

Sex education is not the only place that teaches oral and anal sex as normal sexual practices. Pornography is available 24/7 on people's phones, televisions, and computers; and kids are viewing it. The pornography of today shows things like men gagging women with their penises during oral sex. It also shows men performing anal sex on women and taking their penis out of her anus and putting it immediately into her mouth (ATM). As the appendix in this report shows, oral-anal transmission routes spread 17 of the 49 diseases.

Conclusion

An ABC News story interviewed a 29-year-old woman about pornography influencing sexual behavior. She said, "Porn makes people more adventurous with their sex acts. Anal sex is sort of always considered the last frontier, pushing the envelope."⁷⁷

Pushing the envelope is a good way to sum up this report, which begins with a mention of the three STDs that were tracked in 1918 and examines the risk factors that have led to there being at least 49 diseases today and more than 19 million new cases of STDs each year. Having sex at an early age is a risk because bodies are not fully developed yet and, therefore, more susceptible to disease, especially for girls. Having multiple sex partners increases the risk of acquiring at least one STD and often more. Because many carriers are asymptomatic, the risks expand, as you cannot tell by looking at a sex partner whether they are infected or not. Oral sex (including oral-anal) and anal sex combined are transmission routes for all but three of the diseases listed in

this report. Vaginal sex is less risky, as the vagina was designed for the purpose of sex, and as such has more inherent protections against STDs. However, as the report shows, until young girls become young women, their physiology makes them more susceptible to STDs. While unprotected sex with an infected partner is a fairly efficient way to acquire an STD, using a condom, while affording some protection, is not a guarantee that an infected partner will not share that infection.

Some people treat abstinence education with disdain, but even the CDC says the only way to avoid an STD is to abstain from sex or have a mutually monogamous sexual relationship with another uninfected person. Children should be taught about all of the risk factors associated with teenage sex and the risks of the different types of sex. They should be given comprehensive education on how many STDs there are and the lifelong consequences of acquiring any of them. Those consequences range from none, to mild, to chronic infections, to infertility, and even to death, depending on the STD. And adults engaging in risky sexual behaviors should be encouraged to educate themselves on the consequences of their actions.

Forty-nine sexually transmitted diseases, 19 million new STD infections each year, and 65 million Americans living with an incurable STD are the legacies of early sexual debut, multiple partners, homosexuality, and engaging in unprotected sex. Promiscuity does not lead to fulfillment; it leads to disease.

Free love, like the proverbial free lunch, does not exist.

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APPENDIX

A

Appendix A: Sexually Transmitted Diseases

As the narrative portion of this report outlines, there is an epidemic of sexually transmitted diseases in the United States. Many people believe condoms will prevent sexually transmitted diseases, but for condoms to be considered a *prevention* method, they would have to make it impossible to acquire an STD if you use one. As the following quotes illustrate, such is not the case. There are only two methods for *preventing* STDs — abstinence and a monogamous relationship between two uninfected people.

“The most reliable way to avoid transmissions of STDs 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 STD (or whose partners are undergoing treatment) and for persons who want to avoid the possible consequences of sex completely (e.g., STD/HIV and unintended pregnancy).” — Sexually Transmitted Diseases Treatment Guidelines, 2006⁷⁸

In the 2010 Guidelines, the Centers for Disease Control and Prevention (CDC) weakened the prevention message, which is odd in light of the millions of newly acquired infections that occur each year. The 2010 Guidelines⁷⁹ state:

“A reliable way to avoid transmission of STDs is to abstain from oral, vaginal, and anal sex or to be in a long-term, mutually monogamous relationship with an uninfected partner. For persons who are being treated for an STD (or whose partners are undergoing treatment), counseling that encourages abstinence from sexual intercourse until completion of the entire course of medication is crucial.”

The information in Appendix A includes the number of teens that have one of these diseases, where the numbers are known, because they have the highest rates of infection.

“The rates of many STDs are highest among adolescents. ... Adolescents are at higher risk for STDs because they frequently have unprotected intercourse, are biologically more susceptible to infection, are engaged in sexual partnerships frequently of limited duration, and face multiple obstacles to using health care.” — Sexually Transmitted Diseases Treatment Guidelines, 2006⁸⁰

Appendix A provides government and medical sources that state condoms only reduce risk; they do not prevent the transmission of any of these 49 sexually transmitted diseases.

“Consistent and correct use of the male latex condom reduces the risk of sexually transmitted disease (STD) and human immunodeficiency virus (HIV) transmission. However, condom use cannot provide absolute protection against any STD.” — CDC’s Condom Fact Sheet in Brief⁸¹

“Will a condom guarantee I won’t get a sexually transmitted disease?”

No. There’s no absolute guarantee, even when you use a condom. But most experts believe that the risk of getting HIV/AIDS and other sexually transmitted diseases can be greatly reduced if a condom is used properly.

In other words, sex with condoms isn’t totally “safe sex,” but it is “less risky” sex.” — U.S. Food and Drug Administration⁸²

Bacteria: (listed by disease with the pathogen in parentheses)

1. Bacterial Vaginosis (BV) (Pathogen: *Gardnerella vaginalis*)

- a. **Is it curable?** Yes. It is the most common vaginal infection in women of childbearing age.
- b. **Treatment description:** Antibiotics are an effective treatment for Bacterial Vaginosis, and these include metronidazole or clindamycin.⁸³
- c. **How many people have BV?** The only figures found were from 2000. The CDC Trends 2000 report stated that as many as 16 percent of pregnant women in the U.S. have BV. In the race categories, it stated six percent of Asian, nine percent of white, 16 percent of Hispanic, and 23 percent of African American women had BV.⁸⁴
- d. **How many teens have BV?** No breakdown between adult and teen women found.
- e. **Do condoms prevent BV?** According to the CDC, Bacterial Vaginosis is not completely understood by scientists. Prevention methods include abstinence and limiting the number of sex partners.⁸⁵
- f. **What are the complications of BV?** In most cases, it causes none, according to the CDC. It does however increase a woman’s susceptibility to HIV infection if she is exposed to the HIV virus, and increases susceptibility to other sexually transmitted infections such as Gonorrhea, Chlamydia, and Herpes Simplex Virus.⁸⁶
- g. **Modes of sexual transmission:** Vaginal.⁸⁷

2. Campylobacteriosis (Pathogen: *Campylobacter jejuni*)

- a. **Is it curable?** Yes. It is bacteria that can be spread through contaminated food or water, or it can be transmitted sexually.⁸⁸
- b. **Treatment description:** According to the National Institute of Allergy and Infectious Diseases (NIAID), most people will get better with no treatment. For some, antibiotics (erythromycin) may be prescribed.⁸⁹
- c. **How many people have Campylobacteriosis?** According to the CDC, estimates place the number of infected individuals at more than 2.4 million people a year in the U.S., but there is no breakdown between food/water borne and sexually transmitted.⁹⁰
- d. **How many teens have Campylobacteriosis?** No breakdown is available.
- e. **Do condoms prevent transmission of Campylobacteriosis?** No. It is transmitted through oral-anal sex.⁹¹
- f. **What are the complications of Campylobacteriosis?** According to the NIAID, some people may have convulsions with fever or meningitis and some people may develop arthritis. A small number of people will develop Guillan-Barrè syndrome.⁹²

- g. **Modes of sexual transmission:** Oral-anal.

3. Chancroid (Pathogen: *Haemophilus ducreyi*)

- a. **Is it curable?** Yes.
- b. **Treatment description:** The CDC recommends using Azithromycin, Ceftriaxone, Ciprofloxacin, or Erythromycin base.⁹³
- c. **How many people have Chancroid?** In 2009, 28 cases were reported in the U.S. According to the *STD Surveillance Report, 2009*, “Although the overall decline in reported chancroid cases most likely reflects a decline in the incidence of this disease, these data should be interpreted with caution since *Haemophilus ducreyi*, the causative organism of chancroid, is difficult to culture and, as a result, this condition may be substantially under-diagnosed.”⁹⁴
- d. **How many teens with Chancroid?** No breakdown between adult and teen.
- e. **Do condoms prevent transmission of Chancroid?** Chancroid infections “can occur in both male and female genital areas that are covered or protected by a latex condom, as well as in areas that are not covered. Consistent and correct use of latex condoms reduces the risk of chancroid only when the infected area or site of potential exposure is protected.”⁹⁵
- f. **What are the complications of Chancroid?** According to the National Library of Medicine’s (NLM) webpage, “Complications include urethral fistulas and scars on the foreskin of the penis in uncircumcised males. Patients with chancroid should also be checked for syphilis, HIV, and genital herpes.”⁹⁶
- g. **Modes of sexual transmission:** Oral, anal, vaginal (It is spread by skin-to-skin contact).⁹⁷

4. Chlamydia (Pathogen: *Chlamydia trachomatis*)

- a. **Is it curable?** Yes.
- b. **Treatment description:** Antibiotics are an effective treatment for Chlamydia and include tetracyclines, azithromycin, or erythromycin.⁹⁸ The treatment is ceftriaxone plus doxycycline when urethritis is from Chlamydia in males.⁹⁹ Additionally, when Chlamydia is diagnosed, the norm is to treat using combo drugs of amoxicillin + metronidazole or cipro + metronidazole.
- c. **How many people have Chlamydia?** According to the CDC, 1,244,180 cases of Chlamydia were reported to the CDC in 2009.¹⁰⁰
- d. **How many teens have Chlamydia?** According to the CDC, in 2009, there were 13,934 cases in the 10-14 age bracket and 430,255 cases in the 15-19 age bracket.¹⁰¹
- e. **Do condoms prevent transmission of Chlamydia?** According to CDC, “[T]he surest way to avoid transmission of STDs is to abstain from sexual contact, or to be in a long-term mutually monogamous relationship with a partner who has been tested and is known to be uninfected. Latex male condoms, when used consistently and correctly, can reduce the risk of transmission of Chlamydia.”¹⁰²
- f. **What are the complications of Chlamydia?** If left untreated, it may lead to Pelvic Inflammatory Disease (PID), which causes fallopian tube scarring and may lead to infertility. Tubal scarring also increases the likelihood of ectopic pregnancy.¹⁰³
- g. **Modes of sexual transmission:** Oral, anal, vaginal.¹⁰⁴

5. Gonorrhea (Pathogen: *N. gonorrhoeae*)

- a. **Is it curable?** Yes. However, according to the CDC, drug-resistant strains of gonorrhea are increasing in many parts of the world, including the U.S., which is making successful treatment of gonorrhea more difficult.¹⁰⁵
- b. **Treatment description:** Antibiotics are an effective treatment for gonorrhea and include Ceftriaxone or Cefixime, plus treatment for Chlamydia (doxycycline) if Chlamydia infection is not ruled out, according to the CDC. Due to the resistance to antimicrobial therapies, only one class, cephalosporins, are recommended and available for gonorrhea treatment in the United States.¹⁰⁶
- c. **How many people have Gonorrhea?** According to the CDC, 301,174 cases of gonorrhea were reported to the CDC in 2009.¹⁰⁷
- d. **How many teens have Gonorrhea?** According to the CDC, in 2009, there were 2,991 cases in the 10-14 age bracket and 87,221 cases in the 15-19 age bracket.¹⁰⁸
- e. **Do condoms prevent transmission of Gonorrhea?** According to the National Library of Medicine, “Not having sexual intercourse (abstinence) is the only absolute method of preventing gonorrhea. A monogamous sexual relationship with an individual known to be free of any STD can reduce risk. ... You can greatly lower your risk of catching an STD by using a condom every time you have sex.”¹⁰⁹
- f. **What are the complications of Gonorrhea?** Gonorrhea in women may lead to scarring of the fallopian tubes, PID, sterility or painful intercourse. In men it may lead to scarring or narrowing of the urethra, abscess, urination problems, urinary tract infections or kidney failure. It may also lead to disseminated infection, long-term joint pain (if left untreated), heart valve infection or meningitis in men or women.¹¹⁰
- g. **Modes of sexual transmission:** Oral, anal, vaginal.¹¹¹

6. Granuloma Inguinale (Pathogen: *Klebsiella granulomatis*)

- a. **Is it curable?** Yes. It can be cured, but treatment is fairly long.¹¹²
- b. **Treatment description:** The recommended regimen involves Doxycycline. Alternative regimens may be Azithromycin, Ciprofloxacin, Erythromycin base or Trimethoprim-sulfamethoxazole.¹¹³
- c. **How many people have Granuloma Inguinale?** It is very rare in the U.S. but is common in tropical and subtropical areas. About 100 cases occur each year in the U.S.¹¹⁴
- d. **How many teens have Granuloma Inguinale?** Cannot find a breakdown between adult and teen.
- e. **Do condoms prevent transmission of Granuloma Inguinale?** The proper use of condoms, either the male or female type, greatly decreases the risk of catching a sexually transmitted disease. You need to wear the condom from the beginning to the end of each sexual activity.¹¹⁵
- f. **What are the complications of Granuloma Inguinale?** Possible complications may be genital destruction and scarring, loss of skin color in genital area, or permanent genital swelling due to scarring.¹¹⁶
- g. **Modes of sexual transmission:** Vaginal, anal, and, rarely, oral.¹¹⁷

7. Lymphogranuloma Venereum (LGV) (Pathogen: *C. trachomatis*)

- a. **Is it curable?** Yes.
- b. **Treatment description:** The recommended regimen involves Doxycycline. Alternative regimen may be Erythromycin base.¹¹⁸
- c. **How many people have LGV?** It is rare in the U.S.; a few hundred cases occur each year in the U.S.¹¹⁹
- d. **How many teens have LGV?** Cannot find a breakdown between adult and teen.
- e. **Do condoms prevent transmission of LGV?** Abstaining from sexual activity is the only absolute way to prevent a sexually transmitted disease. The proper use of condoms, either the male or female type, greatly decreases the risk of catching a sexually transmitted disease.¹²⁰
- f. **What are the complications of LGV?** Possible complications may be abnormal connections between the rectum and vagina, brain inflammation (very rare), infections in the joints, eyes, heart, or liver, long-term inflammation and swelling of the genitalia or scarring and narrowing of the rectum. Complications can occur many years after the initial infection.¹²¹
- g. **Modes of sexual transmission:** Oral, anal, vaginal.¹²²

8. *Moraxella catarrhalis* (pathogen is the same)

- a. **Is it curable?** Yes. It is a common cause of otitis media and sinusitis.¹²³
- b. **Treatment description:** Antibiotics such as amoxicillin, Trimethoprim-sulfamethoxazole or Amoxicillin-clavulanate.¹²⁴
- c. **How many people have *Moraxella catarrhalis*?** It is estimated it is responsible for 3-4 million cases of otitis media annually. There is no estimate of the number of sexually transmitted cases.¹²⁵
- d. **How many teens have *Moraxella catarrhalis*?** No breakdown is available.
- e. **Do condoms prevent transmission of *Moraxella catarrhalis*?** No. They only reduce risk.
- f. **What are the complications of *Moraxella catarrhalis*?** According to emedicine.com, complications include bacteremia/sepsis, meningitis, mastoiditis, hearing loss, pleural effusion, shock, and death.¹²⁶ While it is a respiratory organism, when it is sexually transmitted, it is associated with urethritis.¹²⁷
- g. **Modes of sexual transmission:** Oral¹²⁸ (Sexual transmission is rare, but cases have been recorded).

9. *Mycoplasma genitalium* (pathogen is the same)

- a. **Is it curable?** Yes. It is a bacterium and seems to have surpassed gonorrhea in prevalence to become the third most common STD among young people in the United States.¹²⁹
- b. **Treatment description:** Antibiotics.¹³⁰
- c. **How many people have *Mycoplasma genitalium*?** No national numbers found on sexually transmitted *M. genitalium*, but one study of 290 patients at a Baltimore STD clinic showed they had an overall prevalence of 15.2 percent.¹³¹ A second study of 1,714 women and 1,218 men found that in young adults ages 18-27, there was a prevalence of one percent.¹³²

- d. **How many teens have *Mycoplasma genitalium*?** No breakdown is available.
- e. **Do condoms prevent transmission of *Mycoplasma genitalium*?** No. They only reduce risk.¹³³
- f. **What are the complications of *Mycoplasma genitalium*?** It has been associated with Pelvic Inflammatory Disease, endometriosis, and preterm birth in women.¹³⁴ It has been associated also with cervicitis in women, and it causes nongonococcal urethritis in men. It may be transmitted from mother to child either at birth or in utero.¹³⁵
- g. **Modes of sexual transmission:** Oral, anal, vaginal.¹³⁶

10. *Mycoplasma hominis* (pathogen is the same)

- a. **Is it curable?** Yes.
- b. **Treatment description:** Oral tetracycline has been the traditional treatment, but resistance now occurs in 20-40 percent of isolates. Clindamycin or fluoroquinolones are alternative treatments for tetracycline-resistant *M. hominis*.¹³⁷
- c. **How many people have *Mycoplasma hominis*?** *M. hominis* has been isolated from cervicovaginal specimens in 21-53 percent of women who are asymptomatic and sexually active. These rates are somewhat lower in males.¹³⁸
- d. **How many teens have *Mycoplasma hominis*?** No breakdown is available.
- e. **Do condoms prevent transmission of *Mycoplasma hominis*?** No. They only reduce risk.¹³⁹
- f. **What are the complications of *Mycoplasma hominis*?** It may be transmitted from mother to child either at birth or in utero.¹⁴⁰ In women, it may cause Pelvic Inflammatory Disease¹⁴¹ and Bacterial Vaginitis,¹⁴² and in men it causes Nongonococcal urethritis.¹⁴³
- g. **Modes of sexual transmission:** Oral,¹⁴⁴ vaginal.¹⁴⁵

11. *Neisseria meningitidis* (pathogen is the same)

- a. **Is it curable?** Yes.
- b. **Treatment description:** Antibiotics such as ciprofloxacin and ceftriaxone.¹⁴⁶
- c. **How many people have *Neisseria meningitidis*?** The prevalence of the organism's asymptomatic nasopharyngeal carriage is five to ten percent of the population. Oro-genital and oral-anal sexual contact has led to it being isolated in the genitourinary tract and anal canal.¹⁴⁷ There are reports of sexual transmission, but no specific numbers were found.
- d. **How many teens have *Neisseria meningitidis*?** No breakdown is available.
- e. **Do condoms prevent transmission of *Neisseria meningitidis*?** No. They only reduce risk.
- f. **What are the complications of *Neisseria meningitidis*?** There have been reports supporting a pathogenic role in cases of urethritis, cervicitis, salpingitis, Pelvic Inflammatory Disease, vulvovaginitis, proctitis, peritonitis, and preterm birth when *N. meningitidis* is sexually transmitted.¹⁴⁸
- g. **Modes of sexual transmission:** Oral,¹⁴⁹ oral-anal.¹⁵⁰

12. Salmonellosis¹⁵¹ (Pathogen: *Salmonella Enteritidis*)

- a. **Is it curable?** Yes. It is bacteria that can be spread usually through food contaminated with animal feces, but it can be sexually transmitted as well.
- b. **Treatment description:** According to the CDC, it usually goes away on its own with no treatment necessary, unless there are systemic symptoms which may be treated with ampicillin, trimethoprim-sulfamethoxazole, or ciprofloxacin.
- c. **How many people have Salmonellosis?** According to the CDC, 40,000 cases are reported each year, but there is no breakdown between food/water borne and sexually transmitted.
- d. **How many teens have Salmonellosis?** No breakdown is available.
- e. **Do condoms prevent transmission of Salmonellosis?** No, they may reduce risk during anal sex, but it is also transmitted through oral-anal sex.
- f. **What are the complications of Salmonellosis?** There are no lifelong complications. Rarely, it will lead to Reiter's syndrome, which, in turn, could lead to chronic arthritis.
- g. **Modes of sexual transmission:** Oral, oral-anal.¹⁵²

13. Shigellosis (Pathogen: *Shigella*)

- a. **Is it curable?** Yes. It is bacteria that can be spread from contact with feces; it can be spread through contaminated food or water or person to person.
- b. **Treatment description:** According to the NLM webpage, it usually goes away on its own with no treatment necessary but antibiotics can shorten the duration. Systemic symptoms may be treated with trimethoprim-sulfamethoxazole, or ciprofloxacin.¹⁵³
- c. **How many people have Shigellosis?** 18,000 cases are reported a year, but there is no breakdown between food/water borne and sexually transmitted.¹⁵⁴
- d. **How many teens have Shigellosis?** No breakdown is available.
- e. **Do condoms prevent transmission of Shigellosis?** No, they may reduce risk during anal sex, but it is also transmitted through oral-anal sex.¹⁵⁵
- f. **What are the complications of Shigellosis?** According to the CDC, there are no lifelong complications. Rarely, will it lead to post-infectious arthritis, which causes pains in their joints, irritation of the eyes, and painful urination, and which in turn could lead to chronic arthritis.¹⁵⁶
- g. **Modes of sexual transmission:** Oral, oral-anal.¹⁵⁷

14. Syphilis (Pathogen: *Treponema pallidum*)

- a. **Is it curable?** Yes.
- b. **Treatment description:** Antibiotics are an effective treatment for syphilis. The antibiotic of choice is (benzathine) penicillin. Doxycycline may be used as an alternative treatment in individuals who are allergic to penicillin.¹⁵⁸
- c. **How many people have Syphilis?** During 2008-2009, the number of cases of early latent syphilis reported to CDC increased 5.4 percent (from 12,401 to 13,066 cases), while the number of cases of late and late latent syphilis decreased 13.1 percent (from 19,945 to 17,338 cases). The total number of cases of syphilis (P&S, early latent, late, late latent, and congenital) reported to CDC decreased 3.2 percent (from 46,291 to 44,828 cases) during 2008-2009.¹⁵⁹

- d. **How many teens have Syphilis?** In 2009, there were 19 cases in the 10-14 age bracket and 1,005 cases in the 15-19 age bracket.¹⁶⁰
- e. **Do condoms prevent transmission of Syphilis?** According to CDC, “Genital ulcer diseases, like syphilis, can occur in both male and female genital areas that are covered or protected by a latex condom, as well as in areas that are not covered. Correct and consistent use of latex condoms can reduce the risk of syphilis, as well as genital herpes and chancroid, only when the infected area or site of potential exposure is protected.”¹⁶¹
- f. **What are the complications of Syphilis?** Complications of untreated syphilis include: damage to the skin and bones, heart and blood vessel problems, including inflammation and aneurysms of the aorta and Neurosyphilis (with dementia).¹⁶²
- g. **Modes of sexual transmission:** Oral, anal, vaginal.¹⁶³

15. *Ureaplasma parvum* (pathogen is the same)

- a. **Is it curable?** Yes.
- b. **Treatment description:** Erythromycin or tetracyclines are the drugs of choice for *Ureaplasma* infections, but a recent survey detected tetracycline resistance in 45 percent of *Ureaplasma* isolates.¹⁶⁴
- c. **How many people have *Ureaplasma parvum*?** It is estimated *Ureaplasma* is found in 70 percent of sexually active people.¹⁶⁵
- d. **How many teens have *Ureaplasma parvum*?** No estimates found.
- e. **Do condoms prevent transmission of *Ureaplasma parvum*?** No, because frequently *Ureaplasma* organisms are carried in the lower urogenital tract in persons who are asymptomatic and sexually active; condoms provide little benefit because the organisms act as opportunistic normal flora.¹⁶⁶
- f. **What are the complications of *Ureaplasma parvum*?** One study associated *U. parvum* with preterm birth and late, spontaneous abortion.¹⁶⁷ It may also cause urethritis, pyelonephritis, pelvic inflammatory disease, infertility, and endometriosis in women.¹⁶⁸
- g. **Modes of sexual transmission:** Oral, vaginal.¹⁶⁹

16. *Ureaplasma urealyticum* (pathogen is the same)

- a. **Is it curable?** Yes.
- b. **Treatment description:** Erythromycin or tetracyclines are the drugs of choice for *Ureaplasma* infections, but a recent survey detected tetracycline resistance in 45 percent of *Ureaplasma* isolates.¹⁷⁰
- c. **How many people have *Ureaplasma urealyticum*?** It is estimated *Ureaplasma* is found in 70 percent of sexually active people.¹⁷¹
- d. **How many teens have *Ureaplasma urealyticum*?** No estimates found.
- e. **Do condoms prevent transmission of *Ureaplasma urealyticum*?** No because frequently *Ureaplasma* organisms are carried in the lower urogenital tract in persons who are asymptomatic and sexually active; condoms provide little benefit because the organisms act as opportunistic normal flora.¹⁷²
- f. **What are the complications of *Ureaplasma urealyticum*?** *U. urealyticum* may cause non-gonococcal urethritis in men and women, postpartum fever, pelvic inflammatory

disease, and infertility in men and women.¹⁷³ It may also cause pyelonephritis and endometriosis in women.¹⁷⁴

- g. **Modes of sexual transmission:** Oral, vaginal.¹⁷⁵

17. *Yersinia* (Pathogen: *Yersinia enterocolitica*)

- a. **Is it curable?** Yes. It is bacteria usually transmitted by the fecal-oral route through ingestion of contaminated food or water but also may be transmitted sexually.¹⁷⁶
- b. **Treatment description:** The CDC reports that most infections are mild and require no treatment. For more severe cases, antibiotics such as aminoglycosides, doxycycline, trimethoprim-sulfamethoxazole, or fluoroquinolones may be useful.¹⁷⁷
- c. **How many people have *Yersinia*?** The CDC estimates that one in 100,000 people in the U.S. contract Yersiniosis each year. There is no breakdown for sexually transmitted cases.¹⁷⁸
- d. **How many teens have *Yersinia*?** No breakdown is available.
- e. **Do condoms prevent transmission of *Yersinia*?** No, it is spread through oral-anal contact.
- f. **What are the complications of *Yersinia*?** Complications can include post infectious arthritis, systemic infections, and erythema nodosum.¹⁷⁹
- g. **Modes of sexual transmission:** Oral-anal.¹⁸⁰

Viruses: (listed by disease with the pathogen in parentheses)

18. Adenovirus (pathogen is the same)

- a. **Is it curable?** No, just treatment for symptoms.
- b. **Treatment description:** The CDC reports that most infections are mild and require no treatment. For more severe cases, only the symptoms may be treated.¹⁸¹
- c. **How many people have Adenovirus?** There are 52 known types of Adenovirus, but no data were found about how many people have sexually transmitted Adenovirus.
- d. **How many teens have Adenovirus?** No breakdown is available.¹⁸²
- e. **Do condoms prevent transmission of Adenovirus?** No. They only reduce risk.
- f. **What are the complications of Adenovirus?** This 1995 study associated Adenovirus with genital ulcers, urethritis, and conjunctivitis.¹⁸³
- g. **Modes of sexual transmission:** Oral,¹⁸⁴ anal, and vaginal.¹⁸⁵ From the limited studies available, it seems insertive oral sex is the most common transmission route.

19. Cytomegalovirus (CMV) (pathogen is the same)

- a. **Is it curable?** No. It is in the herpes virus family. It is not exclusively a sexually transmitted disease. It also can be spread through person to person contact such as kissing, or getting saliva or urine on your hands and then touching your eyes or the inside of your nose or mouth; through the breast milk of an infected woman who is breast feeding; infected pregnant women can pass the virus to their unborn babies; or blood transfusions and organ transplantations, according to the CDC.¹⁸⁶
- b. **Treatment description:** The CDC states there is no treatment.¹⁸⁷
- c. **How many people have CMV?** No solid numbers found but the CDC estimates 50 to 80 percent of all adults in the U.S. are infected by age 40.¹⁸⁸

- d. **How many teens have CMV?** No estimates found.
- e. **Do condoms prevent transmission of CMV?** No. They only reduce risk.¹⁸⁹
- f. **What are the complications of CMV?** The NLM webpage states throat infection is the most common complication. In rare cases, other complications include colitis, Guillen-Barrè syndrome, neurologic complications, pericarditis or myocarditis, pneumonia, or rupture of the spleen.¹⁹⁰ Active cases in the mother transmit to the baby via pregnancy.¹⁹¹
- g. **Modes of sexual transmission:** Oral, anal, or vaginal sex transmission is possible, as it can be passed through body fluids including saliva, semen, and vaginal fluids.¹⁹²

20 & 21. Genital Herpes Simplex Virus 1 and 2 (HSV-1/HSV-2) (pathogen is the same)

- a. **Is it curable?** No. It is a chronic, life-long viral infection.
- b. **Treatment description:** For the first clinical episode the CDC recommends an antiviral therapy such as Acyclovir, Famciclovir, or Valacyclovir for a limited time. For established infections, the CDC recommends suppressive therapy with the same antivirals, but using them daily instead of short-term.¹⁹³
- c. **How many people have Genital HSV?** The CDC STD Surveillance Report, 2009 states there were 306,000 initial physician office visits for Genital HSV in 2009.¹⁹⁴ The CDC states HSV-2 is more common in women; about one in five women ages 14-49 have it. About one in nine men ages 14-49 have it. Nationwide, 16.2 percent have it.¹⁹⁵
- d. **How many teens have Genital HSV?** Cannot find a breakdown between adult and teen.
- e. **Do condoms prevent the transmission of Genital HSV?** “Genital ulcer diseases can occur in both male and female genital areas that are covered or protected by a latex condom, as well as in areas that are not covered. Correct and consistent use of latex condoms can reduce the risk of genital herpes.”¹⁹⁶
- f. **What are the complications of Genital HSV?** It causes recurrent painful genital sores, infection can be severe in people with suppressed immune systems, and it may make people more susceptible to HIV infection.¹⁹⁷ Mothers with active cases at the onset of labor should deliver via cesarean section to prevent neonatal HSV infection.¹⁹⁸
- g. **Modes of sexual transmission:** Oral, anal, vaginal. (It is spread through skin-to-skin contact.)¹⁹⁹

22. Genital Warts (pathogen: Human Papillomavirus)

- a. **Is it curable?** While external warts can be removed, the virus remains systemic with possible recurrence.
- b. **Treatment description:** The American Academy of Dermatology states the treatments include simple excision, removal with an electric needle, Cryosurgery (freezing with liquid nitrogen), laser, acid applications, Interferon injections, or prescription gels or creams.²⁰⁰
- c. **How many people have Genital Warts?** The CDC states that about 1 percent of sexually active adults in the U.S. have genital warts at any one time.²⁰¹ As reported in

the CDC's 2009 Surveillance Report, the National Disease and Therapeutic Index showed 357,000 reports in 2009.²⁰²

- d. **How many teens have Genital Warts?** No breakdown between adults and teens found.
- e. **Do condoms prevent transmission of Genital Warts?** The CDC says that condoms may lower your risk of passing on genital warts if used properly and at all times. But, HPV infects genital areas not covered by condoms, and genital warts are caused by HPV.²⁰³
- f. **What are the complications of Genital Warts?** If they do not go away on their own or treatment is not sought, they could grow larger and multiply.²⁰⁴
- g. **Modes of sexual transmission:** Oral, anal, or vaginal sex.²⁰⁵

23. Hepatitis A Virus (pathogen is the same)

- a. **Is it curable?** Systemic disease is self-limiting. According to the NLM, the virus does not remain in the body after the infection goes away.²⁰⁶
- b. **Treatment description:** According to the NLM, there is no treatment. Most people recover within 3 months.²⁰⁷
- c. **How many people have Hepatitis A?** The CDC states in 2008 there were 2,585 cases reported voluntarily. The CDC estimates there were 11,000 acute cases that year and 22,000 new infections.²⁰⁸
- d. **How many teens have Hepatitis A?** The CDC 2007 Surveillance Summary showed 431 reported cases of children under the age of 15.²⁰⁹
- e. **Do condoms prevent transmission of Hepatitis A?** No. Hepatitis A is spread through oral-anal contact.
- f. **What are the complications of Hepatitis A?** According to the NLM webpage, there are no complications.²¹⁰
- g. **Modes of sexual transmission:** Oral-anal.²¹¹

24. Hepatitis B Virus (Acute & Chronic) (pathogen is the same)

- a. **Is it curable?** No, however in acute cases, systemic disease is self-limiting; in most cases the virus clears their body in a few weeks or months. If you have had it, you cannot get it again as your body will develop antibodies for life. However, experts recommend you do not donate blood, organs, or semen if you have had it. Chronic cases are not curable.²¹²
- b. **Treatment description:** According to the NLM webpage, there is no treatment. The acute illness usually goes away in 2-3 weeks, and the liver returns to normal in 4-6 months. The chronic illness may be treated with antiviral medications to lessen the infection.²¹³
- c. **How many people have Hepatitis B?** The CDC states that in 2008 there were 4,033 cases reported, estimates there were 12,000 acute cases that year and estimates there were 38,000 new infections. The CDC estimates there are 800,000 to 1.4 million persons with Chronic HBV.²¹⁴
- d. **How many teens have Hepatitis B?** No breakdown is available.
- e. **Do condoms prevent transmission of Hepatitis B?** No. They only reduce risk of transmission.²¹⁵

- f. **What are the complications of Hepatitis B?** According to the NLM webpage, it is rare for persons with acute Hepatitis B to have permanent liver damage, but it can happen. In chronic cases it may cause liver cancer, cirrhosis, chronic persistent hepatitis, or fulminant hepatitis, which can lead to liver failure and possibly death.²¹⁶
- g. **Modes of sexual transmission:** Oral, anal, vaginal,²¹⁷ and oral-anal.²¹⁸

25. Hepatitis C Virus (Acute & Chronic) (pathogen is the same)

- a. **Is it curable?** No. The CDC reports 15-25 percent of people clear the virus from their bodies without treatment. However, 75-85 percent of newly infected people will develop chronic HCV.²¹⁹
- b. **Treatment description:** According to the NLM webpage, the chronic illness may be treated with antiviral medications, such as a combination of interferon alpha and ribavirin to suppress the virus.²²⁰
- c. **How many people have Hepatitis C?** The CDC states that there were 878 reported cases of HCV in 2008, it estimates there were 18,000 new cases in 2008 and 2.7-3.9 million people have chronic HVC.²²¹
- d. **How many teens have Hepatitis C?** No breakdown is available.
- e. **Do condoms prevent transmission of Hepatitis C?** No. They only reduce risk of transmission.²²²
- f. **What are the complications of Hepatitis C?** According to the CDC, 75-85 percent of people infected with HCV will develop chronic Hepatitis C virus infection. Of those, 60-70 percent will go on to develop chronic liver disease, 5-20 percent will go on to develop cirrhosis over a period of 20-30 years, and 1-5 percent will die from cirrhosis or liver cancer.²²³
- g. **Modes of sexual transmission:** Oral, anal, vaginal.²²⁴

26. Hepatitis D Virus (Acute & Chronic) (pathogen is the same)

- a. **Is it curable?** No. However, the NLM webpage states that most of those infected with acute HDV usually get better in 2-3 weeks. About 10 percent of those infected will have chronic HDV. HDV only occurs in people already infected with Hepatitis B Virus.²²⁵
- b. **Treatment description:** The chronic illness may be treated with interferon alpha for up to 12 months or a liver transplant for those with end-stage HBV.²²⁶
- c. **How many people have Hepatitis D?** There are no figures for the number of cases in the United States, but the NLM webpage estimates there are 15 million cases around the world and that five percent of those infected with HBV will also have HDV.²²⁷ The CDC states it is rare in the U.S.²²⁸
- d. **How many teens have Hepatitis D?** No breakdown is available.
- e. **Do condoms prevent transmission of Hepatitis D?** No. They only reduce risk of transmission.²²⁹
- f. **What are the complications of Hepatitis D?** According to the NLM webpage, complications include chronic active hepatitis or fulminant hepatitis.²³⁰
- g. **Modes of sexual transmission:** Oral, anal, vaginal (similar to HBV, but less efficient).²³¹

27. Hepatitis E Virus (Acute & Chronic)²³² (pathogen is the same)

- a. **Is it curable?** No, but the CDC states it is usually a self-limiting, acute illness. Chronic cases are rare and usually associated with organ transplantation.
- b. **Treatment description:** It usually resolves on its own; physicians should offer supportive therapy.
- c. **How many people have Hepatitis E?** It is believed to be rare in the United States.
- d. **How many teens have Hepatitis E?** No breakdown is available.
- e. **Do condoms prevent transmission of Hepatitis E?** No, because it is spread by fecal-oral route.
- f. **What are the complications of Hepatitis E?** Most people recover completely. For pregnant women, the disease is more serious and is fatal for 10-30 percent of them, especially in the third trimester.
- g. **Modes of sexual transmission:** Oral-anal (similar to Hepatitis A).

28 & 29. Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) (HIV-1 and HIV-2) (pathogen is the same)

- a. **Is it curable?** No. HIV is the virus that causes AIDS. Antiretroviral medicines cannot cure HIV, but they can control the virus and slow the progression of infection, according to the CDC.²³³
- b. **Treatment description:** The CDC states there are antiretroviral medications to treat the retrovirus and the recommended treatment currently is highly active antiretroviral therapy (HAART).²³⁴ The HAART regimen is tailored to each individual patient.
- c. **How many people have HIV/AIDS?** The CDC states HIV-2 is rare in the U.S.,²³⁵ so the following numbers reflect HIV-1 cases. The CDC estimates 1,106,400 people in the U.S. have HIV, and there are an estimated 56,300 new infections each year. The CDC estimates in 2008 there were 42,439 cases of HIV/AIDS and 37,991 cases of AIDS diagnosed, also estimating there were 470,902 persons living with an AIDS diagnosis at the end of 2007.²³⁶
- d. **How many teens have HIV/AIDS?** The CDC estimates 1,901 children between the ages of 13 and 19 were diagnosed with HIV/AIDS in 2008 and 545 children between the ages of 13 and 19 were diagnosed with AIDS in 2008.²³⁷
- e. **Do condoms prevent transmission of HIV/AIDS?** According to the CDC, condoms only reduce the risk of transmission.²³⁸
- f. **What are the complications of HIV/AIDS?** According to aids.gov, HIV weakens the immune system, making people susceptible to “opportunistic infections.” The list of infections includes: Bacterial diseases such as tuberculosis, Mycobacterium avium complex (MAC), bacterial pneumonia, and septicaemia (blood poisoning); Protozoal diseases such as toxoplasmosis, microsporidiosis, cryptosporidiosis, isosporiasis, and leishmaniasis; Fungal diseases such as Pneumocystis Carinii Pneumonia, candidiasis, cryptococcosis, and penicilliosis; Viral diseases such as those caused by cytomegalovirus, herpes simplex, and herpes zoster virus, and HIV-associated malignancies such as Kaposi’s sarcoma, lymphoma, and squamous cell carcinoma.²³⁹ HIV causes AIDS, which can lead to death.

- g. **Modes of sexual transmission:** Oral, anal, vaginal, oral-anal.²⁴⁰
Additional Notes on HIV: According to Avert.org, there are two types of HIV, 1 and 2. The HIV-1 strain has four Groups: M, N, O and P. Group M has nine distinct subtypes: A, B, C, D, F, G, H, J and K. A Circulating Recombinant Form (CRF) occurs when two subtypes combine to create a new hybrid virus.²⁴¹ The Los Alamos National Laboratory has identified 48 CRFs to date for HIV-1 and one CRF for HIV-2.²⁴² That totals 64 types, subtypes, groups, and strains of HIV, and as the virus mutates, it is likely new strains will be discovered.

30. Human papillomavirus (HPV) (pathogen is the same)

- a. **Is it curable?** No. HPV is a group of more than 100 types of viruses and, of those, more than 40 can infect the genital areas of males and females.²⁴³ According to the NLM, 30 of those may cause cancer.²⁴⁴
- b. **Treatment description:** HPV is not curable, but there are treatments for medical problems associated with HPV, such as genital warts, changes to the cervix, and cervical cancer.²⁴⁵
- c. **How many people have HPV?** According to the CDC, 20 million Americans between the ages of 15 and 49 have HPV, and each year more than six millions others are infected.²⁴⁶
- d. **How many teens have HPV?** No breakdown between adults and teens found, but a CDC study found 18.3 percent of girls between the ages of 14-19 have HPV.²⁴⁷
- e. **Do condoms prevent transmission of HPV?** No, but they reduce the risk of transmission. The American College of Obstetricians and Gynecologists (ACOG) has a brochure on HPV, and it says the only way to prevent HPV is abstinence. They reiterate that condoms only decrease the risk of HPV over the areas they cover.²⁴⁸
- f. **What are the complications of HPV?** The CDC webpage lists genital warts and cervical cancer as the most common. Other cancers caused by HPV are vulvar, vaginal, penile, anal, head and neck cancers.²⁴⁹
- g. **Modes of sexual transmission:** Oral, anal, or vaginal sex.²⁵⁰

31. Human T-Cell Lymphotropic Virus Type I (HTLV-I) (pathogen is the same)

- a. **Is it curable?** No. According to an eMedicine.com article, transmission can occur through sexual contact, breastfeeding, childbirth, blood transfusion, and injection drug use.²⁵¹
- b. **Treatment description:** There is no treatment.²⁵²
- c. **How many people have HTLV-I?** No solid data found, but according to the eMedicine article, based on transfusion screening data, the seroprevalence of HTLV-1 infection is 0.01-0.03 percent.²⁵³
- d. **How many teens have HTLV-1?** No estimates found.
- e. **Do condoms prevent transmission of HTLV-I?** No. They only reduce risk of transmission.²⁵⁴
- f. **What are the complications of HTLV-I?** HTLV-I is associated with Adult T-cell Leukemia, HTLV-1-associated myelopathy/tropical spastic paraparesis (HAM/TSP), Uveitis and Infective Dermatitis.²⁵⁵
- g. **Modes of sexual transmission:** Same as HIV: Oral, anal, vaginal.²⁵⁶

32. Human T-Cell Lymphotropic Virus Type II (HTLV-II) (pathogen is the same)

- a. **Is it curable?** No. According to the eMedicine.com article, transmission can occur through sexual contact, breastfeeding, childbirth, blood transfusion, and injection drug use.²⁵⁷
- b. **Treatment description:** The International Retroviral Association states there is no treatment.²⁵⁸
- c. **How many people have HTLV-II?** No solid data found, but according to the eMedicine article, in the United States, HTLV-2 infection predominantly affects Native American Indians. Some tribes have seroprevalence rates as high as 13 percent. Intravenous drug users, in whom the seroprevalence is estimated to be about 20 percent, with a disproportionate share occurring in African-American injection drug users.²⁵⁹
- d. **How many teens have HTLV-II?** No estimates found.
- e. **Do condoms prevent transmission of HTLV-II?** No. They only reduce risk of transmission.
- f. **What are the complications of HTLV-II?** According to the eMedicine article, it is linked with pneumonia, bronchitis, arthritis, asthma, and dermatitis.²⁶⁰
- g. **Modes of sexual transmission:** Same as HIV: Oral, anal, vaginal.²⁶¹

33. Kaposi's sarcoma-associated herpesvirus (KSHV) also known as Human Herpesvirus-8 (HHV-8) (pathogen is the same)

- a. **Is it curable?** No. This virus is found in immune-compromised people and is believed to cause Kaposi sarcomas.²⁶²
- b. **Treatment description:** Antivirals such as Foscarnet and Cidofovir are used to inhibit the virus.²⁶³
- c. **How many people have KSHV?** According to the CDC, seroprevalence is less than five percent of the population in North America, with HIV-seropositive homosexual men representing the highest risk group.²⁶⁴ One report put the number as less than five percent in blood donors in the U.S. and up to 35 percent of HIV-positive homosexual men.²⁶⁵
- d. **How many teens have KSHV?** No breakdown is available.
- e. **Do condoms prevent transmission of KSHV?** No. They only reduce risk. It is spread through saliva,²⁶⁶ and there is still a question of whether it is spread through semen.²⁶⁷
- f. **What are the complications of KSHV?** For people with HIV/AIDS, the complications of KSHV include Kaposi's sarcoma, primary effusion lymphoma, multicentric Castleman's disease (MCD) and recently the National Cancer Institute found that it also causes an inflammatory disease known as interleukin-6 syndrome.²⁶⁸
- g. **Modes of sexual transmission:** According to an *American Journal of Epidemiology* article, oral sex is the most prevalent transmission route, anal and oral-anal transmission routes are also possible.²⁶⁹

34. *Molluscum contagiosum* (pathogen is the same)

- a. **Is it curable?** It is self-limiting. In people with normal immune systems, the NLM says the virus goes away on its own over a period of months to years.²⁷⁰
- b. **Treatment description:** The NLM states that if it does not go away on its own, the lesions may be surgically removed or medications used to remove warts may be helpful.²⁷¹
- c. **How many people have *Molluscum contagiosum*?** No estimates or solid numbers found, but one source says 80 percent of cases are in children under 15 years of age (not sexually transmitted). When it is found in teens and adults, it is usually sexually transmitted.²⁷²
- d. **How many teens have *Molluscum contagiosum*?** No figures or estimates found.
- e. **Do condoms prevent transmission of *Molluscum contagiosum*?** No, because condoms do not cover surrounding skin areas.²⁷³
- f. **What are the complications of *Molluscum contagiosum*?** Secondary bacterial skin infections or persistent spread or recurrence of the lesions.²⁷⁴
- g. **Modes of sexual transmission:** The CDC states it is spread by any contact between two people, so it may be spread via oral, anal, or vaginal sex.²⁷⁵

Parasites: (listed by disease with the pathogen in parentheses)

35. Pubic Lice (*Phthirus pubis*)

- a. **Is it curable?** Yes.
- b. **Treatment description:** The NLM recommends a prescription shampoo such as Elimite or Kwell.²⁷⁶
- c. **How many people have Pubic Lice?** One website estimates there are three million cases of pubic lice each year in the U.S.²⁷⁷
- d. **How many teens have Pubic Lice?** No breakdown between adults and teens found.
- e. **Do condoms prevent transmission of Pubic Lice?** No, because condoms do not cover pubic hair and may not cover the entire infestation.²⁷⁸
- f. **What are the complications of Pubic Lice?** Secondary infections are possible from the constant scratching.
- g. **Modes of sexual transmission:** One website states transmission may occur via oral, anal, or vaginal sex. The lice need close-body contact to crawl from one person to another.²⁷⁹

36. Scabies (*Sarcoptes scabiei*)

- a. **Is it curable?** Yes.
- b. **Treatment description:** The NLM recommends prescription medicated creams such as permethrin (five percent), benzyl benzoate and sulfur in petrolatum.²⁸⁰
- c. **How many people have Scabies?** No estimates or solid numbers found.
- d. **How many teens have Scabies?** No breakdown between adults and teens found.
- e. **Do condoms prevent transmission of Scabies?** No, unless the condom covers the entire infested area.²⁸¹
- f. **What are the complications of Scabies?** Secondary infections are possible from the constant scratching.²⁸²

- g. **Modes of sexual transmission:** It is spread by direct skin-to-skin contact, so it can be transmitted during oral, anal, or vaginal sex.²⁸³

Protozoa: (listed by disease with the pathogen in parentheses)

37. Amebiasis (*Entamoeba histolytica*)²⁸⁴

- a. **Is it curable?** Yes. It is caused by a parasite, and it can be spread through contaminated food or water, but also it can be sexually transmitted.
- b. **Treatment description:** According to the NLM webpage, antiparasitic medication is prescribed, such as oral metronidazole.
- c. **How many people have Amebiasis?** There are no figures or estimates found for the number of sexually transmitted cases in the United States. The NLM webpage states that sexual transmission is most prevalent in people who have anal intercourse.
- d. **How many teens have Amebiasis?** No breakdown is available.
- e. **Do condoms prevent transmission of Amebiasis?** No. They may reduce risk during anal sex, but it is also transmitted through oral-anal sex.
- f. **What are the complications of Amebiasis?** Complications can include a liver abscess or spreading the parasite through the blood to the liver, lungs, brain or other organs.
- g. **Modes of sexual transmission:** Anal, oral-anal.

38. Cryptosporidiosis (*Cryptosporidium parvum*)

- a. **Is it curable?** Yes. It is a parasite found in the intestines of humans and animals and is shed in feces. It can be spread through contaminated food or water, or it can be transmitted sexually.²⁸⁵
- b. **Treatment description:** According to the CDC, most people with healthy immune systems will recover without treatment. Nitazoxanide is the only broad-spectrum antiparasitic drug that has been approved in the United States for treatment of cryptosporidiosis. In the immunocompromised host, careful attention is necessary to maintain hydration.²⁸⁶
- c. **How many people have Cryptosporidiosis?** According to the CDC, there were 10,500 cases reported in 2008. There is no breakdown between cases caused by contaminated food or water or cases caused by sexual transmission.²⁸⁷
- d. **How many teens have Cryptosporidiosis?** No breakdown is available.
- e. **Do condoms prevent transmission of Cryptosporidiosis?** No. They only reduce risk, and it is also transmitted through oral-anal sex.²⁸⁸
- f. **What are the complications of Cryptosporidiosis?** According to the CDC, there are no long-term complications for people with healthy immune systems. People with weakened immune systems may develop serious, chronic, and sometimes fatal illness.²⁸⁹
- g. **Modes of sexual transmission:** Anal, oral-anal.

39. Giardiasis (*Giardia lamblia*)

- a. **Is it curable?** Yes. It is parasite found in the intestines of humans and animals and is shed in feces. It can be spread through contaminated food or water or it can be transmitted sexually.
- b. **Treatment description:** Antiparasitic medications such as Tinidazole, Nitazoxanide or Metronidazole are recommended.²⁹⁰
- c. **How many people have Giardiasis?** According to the CDC, there were 19,140 cases reported in 2008. There is no breakdown between cases caused by contaminated food or water or cases caused by sexual transmission.²⁹¹
- d. **How many teens have Giardiasis?** No breakdown is available.
- e. **Do condoms prevent transmission of Giardiasis?** No. They only reduce risk,²⁹² and it is also transmitted through oral-anal sex.²⁹³
- f. **What are the complications of Giardiasis?** No long-term complications found.
- g. **Modes of sexual transmission:** Anal, oral-anal.

40. Trichomoniasis (*Trichomonas vaginalis*)

- a. **Is it curable?** Yes. Trichomoniasis is the most common curable STD in young, sexually active women, according to the CDC.²⁹⁴
- b. **Treatment description:** The antibiotics metronidazole or tinidazole are used to treat Trichomoniasis, according to the CDC. Sexual partners must be treated.²⁹⁵
- c. **How many people have Trichomoniasis?** According to the CDC, “Case reporting data are not available for trichomoniasis and trend data for this infection is limited to estimates of initial physician office visits from NDTI.”²⁹⁶ Based on this, the 2009 figure is 216,000.²⁹⁷ On the CDC trichomoniasis webpage, however, they estimate there are 7.4 million new cases each year.²⁹⁸
- d. **How many teens have Trichomoniasis?** No breakdown between adults and teens found.
- e. **Do condoms prevent transmission of Trichomoniasis?** According to the CDC, “The surest way to avoid transmission of sexually transmitted diseases is to abstain from sexual contact, or to be in a long-term mutually monogamous relationship with a partner who has been tested and is known to be uninfected. Latex male condoms, when used consistently and correctly, can reduce the risk of transmission of trichomoniasis.”²⁹⁹
- f. **What are the complications of Trichomoniasis?** The genital inflammation caused by Trichomoniasis can increase a woman’s susceptibility to HIV infection if she is exposed to it, according to the CDC’s Trichomoniasis webpage.³⁰⁰
- g. **Modes of sexual transmission:** Vaginal.³⁰¹

Fungi: (listed by disease with the pathogen in parentheses)

41. Candidiasis (*Candida*, primarily *Candida albicans*)

- a. **Is it curable?** Yes. *Candida* fungi are found in men and women. When there is an overgrowth of the fungi in the genitourinary tract, it may result in Vulvovaginal

candidiasis (VVC) in women or balanitis in men — commonly called yeast infections. Candidiasis is not primarily a sexually transmitted disease, but sexual transmission does occur.³⁰²

- b. **Treatment description:** For uncomplicated VVC, topical antifungal treatments are given, such as Butoconazole, Clotrimazole, Miconazole, Tioconazole or an oral agent, Fluconazole. For recurrent VVC (this occurs in less than five percent of women) a longer duration of the initial therapy may be recommended or they may be put on a maintenance regimen.³⁰³ The recommended treatment for men is Clotrimazole or Miconazole, and an alternate treatment is Fluconazole.³⁰⁴ Men acquire *Candida balanitis* through direct sexual contact with a partner who has VVC.³⁰⁵
- c. **How many people have Candidiasis?** Three of every four women will have at least one bout of VVC in their lifetime.³⁰⁶ Balanitis affects three to eleven percent of men in the United States.³⁰⁷ There is no breakdown of cases of sexually transmitted VVC or balanitis.
- d. **How many teens have Candidiasis?** No breakdown between adults and teens found.
- e. **Do condoms prevent transmission of Candidiasis?** No, because *Candida* is normally found on the skin or mucous membranes, so it is already present. When there is an overgrowth of *Candida*, it results in Candidiasis.
- f. **What are the complications of Candidiasis?** In women, VVC can become recurrent or severe.³⁰⁸ In men, balanitis complications may include meatal stenosis and possible urethral strictures, urinary retention or vesicoureteral reflux.³⁰⁹
- g. **Modes of sexual transmission:** Vaginal, oral.³¹⁰

42. Tinea cruris (most commonly *Trichophyton rubrum*)

- a. **Is it curable?** Yes. The common name is “jock itch.” It is not primarily a sexually transmitted disease, but sexual transmission is possible.
- b. **Treatment description:** According to emedicine.com, “Clinical cure of an uncomplicated tinea cruris infection usually can be achieved using topical antifungal agents of the imidazole or allylamine family. Consider patients unable to use topical treatments consistently or with extensive or recalcitrant infection as candidates for systemic administration of antifungal therapy, which has been proven safe in immunocompetent persons.”³¹¹
- c. **How many people have Tinea cruris?** No breakdown of sexually transmitted cases found. Tinea cruris is three times more common in men than in women.³¹²
- d. **How many teens have Tinea cruris?** No breakdown between adults and teens found.
- e. **Do condoms prevent transmission of Tinea cruris?** No. It is a fungal infection of the groin and surrounding skin. It is spread by direct skin-to-skin contact, and the scrotum and penis are usually not affected, but it may spread to the perineum and buttocks.³¹³
- f. **What are the complications of Tinea cruris?** Possible complications include permanent change in the skin color of the area, secondary bacterial skin infections, or side effects of medications.³¹⁴
- g. **Modes of sexual transmission:** Vaginal, anal.

Diseases with more than one pathogenic cause:

43. Cervicitis (may be caused by *C. trachomatis*, *N. gonorrhoeae*, *T. vaginalis* or Genital Herpes)

- a. **Is it curable?** Yes.
- b. **Treatment description:** It can be cured with antibiotics. If they do not work, other treatments may include Cryosurgery (freezing), Electrocauterization, or Laser therapy.³¹⁵
- c. **How many people have Cervicitis?** The NLM webpage estimates that more than 50 percent of all women will have Cervicitis during their adult life.³¹⁶
- d. **How many teens have Cervicitis?** No breakdown between adults and teens found.
- e. **Do condoms prevent Cervicitis?** Having intercourse with only one partner at a time and using condoms consistently and properly may help prevent cervicitis caused by sexually transmitted diseases. The most common causes of sexually transmitted Cervicitis are Gonorrhea, Herpes virus, HPV, Trichomoniasis, and Chlamydia.³¹⁷
- f. **What are the complications of Cervicitis?** Complications may include having the infection for years, and it may lead to pain during intercourse.³¹⁸
- g. **Modes of sexual transmission:** Vaginal, oral, and anal.³¹⁹

44. Enteritis³²⁰ (may be caused by *Giardia lamblia*, *Shigella*, *Salmonella*, *C. jejuni* or *Y. enterocolitica*)

- a. **Is it curable?** Yes. According to the CDC, enteritis is an infection in the small intestine. It is not usually transmitted through sex, but it can be during anal and anal-oral sex. *Giardia lamblia* is the most frequent cause in otherwise healthy people.
- b. **Treatment description:** The CDC recommends Ceftriaxone plus Doxycycline for proctocolitis infections.
- c. **How many people have Enteritis?** There are no figures or estimates found for the number of cases in the United States.
- d. **How many teens have Enteritis?** No breakdown is available.
- e. **Do condoms prevent Enteritis?** No. It is transmitted through oral-anal contact.
- f. **What are the complications of Enteritis?** No complications found.
- g. **Modes of sexual transmission:** Anal and oral-anal.

45. Epididymitis (Pathogens: *N. gonorrhoeae* and/or *Chlamydia trachomatis*)

- a. **Is it curable?** Yes.
- b. **Treatment description:** It can be cured with antibiotics such as a combination of ceftriaxone plus doxycycline³²¹ or Trimethoprim-sulfamethoxazole.³²²
- c. **How many people have Epididymitis?** According to a 2009 article in the *American Family Physician*, there are approximately 600,000 cases a year in the U.S.³²³
- d. **How many teens have Epididymitis?** No breakdown between adults and teens found, but the NLM webpage states it is most common in men between the ages of 19 and 35.³²⁴
- e. **Do condoms prevent Epididymitis?** According to the NLM webpage, “[P]racticing safe sex (having intercourse with only one partner at a time, using condoms) may help

prevent epididymitis caused by sexually-transmitted diseases.”³²⁵ The most common causes of sexually transmitted epididymitis are gonorrhea and Chlamydia.

- f. **What are the complications of Epididymitis?** Complications may include abscess of the scrotum, chronic epididymitis, fistula of the skin of the scrotum, testicular infarction (death of testicular tissue due to lack of blood), and infertility.³²⁶
- g. **Modes of sexual transmission:** The most common infections that cause it are gonorrhea and Chlamydia, which may be transmitted through oral, vaginal or anal sex.³²⁷

46. NonGonococcal Urethritis (NGU) (may be caused by *N. meningitidis*, *C. trachomatis*, *M. genitalium*, *U. urealyticum*, *U. parvum*, Genital Herpes, Adenovirus or *T. vaginalis*)

- a. **Is it curable?** Yes.
- b. **Treatment description:** Axithromycin and Doxycycline are highly effective. Alternate regimens include Erythromycin base, Erythromycin ethylsuccinate, Ofloxacin, or Levofloxacin.³²⁸
- c. **How many people have NGU?** An article on eMedicine.com states, “Urethritis occurs in 4 million Americans each year. The incidence of gonococcal urethritis is estimated at over 700,000 new cases annually, and the incidence of NGU [non-gonococcal] is approximately 3 million new cases annually. Both infections are significantly underreported.”³²⁹
- d. **How many teens have NGU?** No breakdown between adults and teens found.
- e. **Do condoms prevent NGU?** No, but they reduce the risk of transmission of STDs that may cause it.³³⁰
- f. **What are the complications of NGU?** The NLM webpage says complications for men include: Cystitis, Epididymitis, Orchitis, Pyelonephritis, Prostatitis, and urethral stricture. The complications for women include: Cervicitis, Cystitis, ectopic pregnancy, fertility problems, miscarriage, Pelvic inflammatory disease (PID), pregnancy complications, Pyelonephritis, and Salpingitis (infection of the ovaries).³³¹
- g. **Modes of sexual transmission:** Vaginal, oral and anal.³³²

47. Pelvic Inflammatory Disease (PID) (Pathogens: *N. gonorrhoeae* and *C. trachomatis* most commonly, also *M. genitalium*, *M. hominis*, *N. meningitidis*, *U. parvum*, *U. urealyticum*)

- a. **Is it curable?** Yes.
- b. **Treatment description:** The CDC states that PID can be cured with antibiotics, but antibiotic treatment does not reverse any damage that has already occurred to the reproductive organs.³³³ The standard of care is to treat for both *N. gonorrhoeae* and *C. trachomatis* with ceftriaxone plus doxycycline, or ofloxacin.³³⁴
- c. **How many people have Pelvic Inflammatory Disease?** According to the CDC STD Surveillance 2009, it is estimated 100,000 women a year have an initial visit with a doctor.³³⁵ According to the CDC’s Fact Sheet on PID, there are estimates of more than 750,000 women a year who have episodes of acute PID.³³⁶
- d. **How many teens have Pelvic Inflammatory Disease?** No breakdown between adults and teens found. But, the NIH states you are at risk if you are sexually active and younger than 25.³³⁷

- e. **Do condoms prevent Pelvic Inflammatory Disease?** According to the CDC's Fact Sheet, "Women can protect themselves from PID by taking action to prevent STDs or by getting early treatment if they do get an STD. The surest way to avoid transmission of STDs is to abstain from sexual intercourse, or to be in a long-term mutually monogamous relationship with a partner who has been tested and is known to be uninfected."³³⁸ Gonorrhea and Chlamydia are the most common causes of PID, but as seen in those sections, condoms only reduce the risk of transmission; they do not prevent it.
- f. **What are the complications of Pelvic Inflammatory Disease?** Complications may include scar tissue in the fallopian tubes, infertility (CDC estimates 75,000 women a year may become infertile as a result of PID), ectopic pregnancy, or chronic pelvic pain.³³⁹
- g. **Modes of sexual transmission:** Since gonorrhea and Chlamydia, if they are left untreated, are the most common causes of PID, the transmission route is the same: oral, anal, vaginal.

48. Proctitis (may be caused by *N. gonorrhoeae*, Genital Herpes Simplex Virus-2, *C. trachomatis* or *T pallidum*)

- a. **Is it curable?** According to the NLM webpage, Proctitis is an inflammation of the rectum that can be caused by STDs including gonorrhea, herpes, Chlamydia, lymphogranuloma venereum, and amebiasis. Successfully treating the underlying cause usually cures it.³⁴⁰
- b. **Treatment description:** Antibiotics are used for infections.³⁴¹ The CDC recommends Ceftriaxone plus Doxycycline for infections and antiviral treatments for those with herpes proctitis.³⁴²
- c. **How many people have Proctitis?** There are no figures or estimates found for the number of cases in the United States.
- d. **How many teens have Proctitis?** No breakdown is available.
- e. **Do condoms prevent Proctitis?** No. They only reduce risk of transmission of STDs that cause it, but it can also be transmitted by oral-anal sex, and condoms do not protect in those cases.³⁴³
- f. **What are the complications of Proctitis?** Complications include anal fistula, anemia, recto-vaginal fistula, and severe bleeding.³⁴⁴
- g. **Modes of sexual transmission:** Anal, oral-anal.³⁴⁵

49. Proctocolitis (may be caused by *C. jejuni*, *Shigella*, Chlamydia (LGV) or *E. histolytica*)

- a. **Is it curable?** Yes. According to the CDC, proctocolitis is an inflammation of the rectum and colon.³⁴⁶ According to The Practitioners Handbook for the Management of STDs (4th edition), possible STD pathogens causing this disease are *Shigella*, Chlamydia (LGV strains), Campylobacter, Amebiasis.³⁴⁷
- b. **Treatment description:** If there is an underlying STD causing the infection, that STD should be treated. The CDC recommends Ceftriaxone plus Doxycycline for proctocolitis infections.³⁴⁸
- c. **How many people have Proctocolitis?** There are no figures or estimates found for the number of cases in the United States.

- d. **How many teens have Proctocolitis?** No breakdown is available.
- e. **Do condoms prevent Proctocolitis?** No. They only reduce risk of transmission of STDs that cause it, but it can also be transmitted by oral-anal sex, and condoms do not protect in those cases.
- f. **What are the complications of Proctocolitis?** It may lead to tissue destruction with fistula or stricture formation.³⁴⁹
- g. **Modes of sexual transmission:** Oral, oral-anal.³⁵⁰

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Special thanks to:

Nancy Staible, PA-C, DFAAPA
George Tryfiates, Executive Director
Shari Rendall, Director of Legislation and Public Policy
Ken Ervin, Editor
Geoff Putnam, Vice President for Operations
Michelle Minor, cover design, brochure
Celso Wiggins, Operations
Rebekah Tooley, Assistant to the Vice President of Operations

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