**“Sex, Lies, and STDs” By Dr. Robert Huizenga, pages 184-208**

# STD Capsule Summaries

## 1. Quickie HIV Overview (Chapter 5)

Just three decades ago, human immunodeficiency virus (HIV) was the worst, most terrifying STD the world had ever known. Now HIV is fully treatable and fully preventable. Under certain circumstances, fully treated HIV positive individuals can even have sex without a condom - and n transmit it! (But condom-less sex means the chance of getting gonorrhea, syphilis, chlamydia anc other STDs goes way up through!)

In America, the number of new HIV cases is declining, but 39,000 individuals still catch HIV each year, an estimated 1.1 million currently have this lifelong infection and nearly 7,000 still die each year from complications. One half of HIV-infected Americans are either completely unaware they have HIV, not treated or not appropriately treated - these individuals transmit all the new HIV infections. Worldwide, 37 million people currently live with HIV infection — half women and children — the majority undiagnosed or inadequately treated.

If you have HIV infection, antiretroviral medication can fully suppress it, giving you a normal life span and preventing transmission - even when engaging in condom-less oral, vaginal or anal sex.

If you are HIV-uninfected and are contemplating sex with a “high-risk” individual (MSM (men wh have sex with men), IV drug user, sex worker or a heterosexual with high-risk partners), consider taking pre-exposure prophylaxis (PrEP) medication to markedly decrease your risk of contracting HIV (over 99 percent effective). If you experience flu-like symptoms several weeks after a “risky” hook-up — or are just concerned you may be in trouble — get a blood test for HIV. Remember, it takes 1 - 3 months for the test to turn positive so be sure to do a follow-up test 3 months later. Alternatively, there is a more expensive genetic test that turns positive in just 10-14 days (HIV RN blood test, 99 percent accurate).

Bottom line, HIV is no longer a death sentence, so there’s no reason to fear getting tested and treated

### HIV Summary

**Incidence (new U.S. cases/year):** 39,000

**Prevalence (total U.S. cases):** 1,100,000

**Initial symptoms:** Most people are asymptomatic, about half get flu-like illness, rash, sore throat and fe

**Incubation period** (time from infection to initial symptoms): 14 - 28 days (if initial symptoms do fact appear)

**Window period** (time from infection to blood tests turning “positive”): 10-14 days (genetic tests) to 30-90 days (antibody tests)

**Unaware they have HIV:** 15–20 percent, especially in younger individuals and minorities

**What happens if no treatment:** 99 percent progress to debilitating immunosuppression leading to AIDS ten to twelve years after infection. Death comes two to three years after the onset of AIDS (AIDS equals new unexplained weight loss, fever, enlarged lymph nodes, rare infections and cancers)

**Source of HIV infection:** Blood, cum, pre-cum, rectal or vaginal secretions (increased risk with menstruation), breast milk

**Infectivity** (Risk of transmission after one condom-less sex act with untreated patient or HIV tainted blood):

| | |
|---|---|
| **Extreme:** | Blood transfusion: 93 percent risk transmission from HIV positive blood<br>Vaginal delivery: 25 percent risk from untreated HIV positive mother<br>Breast feeding: 10 percent risk from untreated HIV positive mother |
| **High:** | Anal sex, receptive/bottom: 1.4 percent risk from untreated HIV positive partner<br>Needle sharing/drug use: 0.7 percent risk from untreated HIV positive partner |
| **Moderate:** | Anal sex: insertive (top): 0.1 percent risk from untreated HIV positive partner<br>Needle stick (accident): 0.23 percent risk from untreated HIV positive source |
| **Low:** | Vaginal sex, infected male: 0.08 percent risk (4 percent/year if weekly sex)<br>Vaginal sex, infected female: 0.04 percent risk (2 percent/year if weekly sex) |
| **Negligible:** | Receptive oral sex (5 documented cases), blood transfusion in U.S. (0.00004 percent), sharing sex toys (one case) |
| **Zero:** | Kissing, household contacts (showers, toilet seats, towels), saliva, tears, hugs, shaking hands, shared personal objects, food or water |

**Things that change infectivity:** In the first several months after HIV infection, viral load skyrockets, increasing infectiousness by as much as 26-fold. So, during that time, the per-sex-act risk of receptive vaginal transmission jumps from 0.08 percent to 2 percent; the risk of one episode of receptive anal sex goes from 1.4 percent to 33 percent!

**Curable?** No

**Treatable?** Yes; Anti-retroviral treatment (ART)

**Prevention (percent risk reduction):**

1. Testing, especially for those at highest risk
2. Mutual monogamy with uninfected partner (100)
3. Optimal anti-retroviral therapy by HIV-infected persons (99 – 100)
4. Optimal pre-exposure prophylaxis (PrEP) use before high risk sex (99 plus)
5. Optimal post exposure prophylaxis (PEP) (28-day medication regimen taken after unprotected high risk sex) (95 plus)
6. Condoms (80)
7. Circumcision (65)
8. Detection and treatment of another co-existing STD

## 2. Quickie HPV Overview (Chapter 7)

Human papilloma virus (HPV) has recently emerged from the shadow of HIV as Americas deadliest STD - HPV associated cancers now kill twice as many Americans (13,000) as HIV (6,700). HPV is 80 – 90 percent preventable with Gardasil 9 vaccination, but no anti-HPV treatment exists.

Without vaccination, essentially every sexually active individual will catch one or more of the 37 strains of HPV – 5 percent of persons will get visible oral or genital warts, 1 percent will get invasive rectal, penile, cervical, vaginal or oral cancers. 90 percent of infected individuals silently clear the virus within the first few years – so unless an abnormal PAP or screening HPV test is found, the vast majority remain totally unaware of their HPV infection.

HPV is readily passed skin to skin. Hair removal can damage the integrity of the skin for several days and markedly increase the chance of HPV infection. Although condoms prevent transmission to or from the covered penis, open territory exists, thus the chance of HPV transmission is only lowered by 50 percent.

Current and formerly sexually active women must screen for HPV associated rectal, vaginal, vulvar and cervical cancers (a pelvic examination together with a PAP smear every three years from age 21 to 30 then switch to an every 5-year HPV test until age 65). Men must stay on alert for HPV associated oral cancer (MSM for oral and anal cancer) but no cancer prevention strategy has been validated yet - although screening for high risk HPV strains makes logical sense.

Bottom line, if you are having sex — with or without a condom — make sure you are vaccinated against HPV, if appropriate. The younger and less sexually experienced an individual is, the more effective the vaccine. The vaccine is FDA-approved (in other words your health insurance will reimburse you for cost) up until age 45.

### HPV Summary:

**Incidence (new U.S. cases/yr.):** 14,000,000

**Prevalence (total U.S. cases):** 79,000,000

**Initial symptoms:** Majority of people are asymptomatic

**Incubation period (time from infection to illness):** 90 days for warts, 10 - 30 years for cancers

**Window period** (time from infection to blood tests turning "positive"): 90 days (genetic tests)

**What happens if no treatment (i.e. prevention):** 10 percent of infected individual will not be able to clear the virus over the first several years (a persistent infection). 5 percent of those with a persistent high-risk strain will eventually develop cervical, vaginal, penile, anal or oro-pharyngeal cancer. Some skin, esophageal and lung cancer might also be HPV related.

5 percent of those infected with a low risk strain will develop visible oral or genital warts.

**Source of infection**: Skin to skin contact via vaginal, rectal or oral sex or touching

**Infectivity** (Risk of transmission after one condom-less sex act with untreated patient):

**Extreme:** Sex toys

**High:** Anal sex: infected male penis to anus (1 percent), fellatio, cunnilingus, romantic touching (petting, hand job, fingering)

**Moderate:** Vaginal sex: Infected male (0.4 percent)
Infected female (0.4 percent)
French kissing

**Negligible:** Toilet seats, gym machines, damp towels

**Zero:** Blood, breast feeding, tears, swimming pools or hot tubs, hugs, shaking hands, shared personal hygiene objects, food or water

**Things that change infectivity:** Extreme pubic grooming within several days of sexual contact may increase HPV infectivity 4-fold

**Test (accuracy):** High risk HPV testing (95 – 99 percent), PAP (95 percent)

**Curable?** No

**Treatable?** No current anti-viral HPV medication but warts may be treated as well as precancerous lesions

**Prevention (percent risk reduction if known):**

1. Vaccination for the 9 strains (Gardasil-9) that cause most warts and cancers ideally at ages 11-12 but approved until age 45 (99 for persistent HPV infection)
2. Condoms (50)
3. HPV testing (cervix) every 5 years beginning age 30 until age 65 (95-99)
4. PAP smear every 3 years age 21 to 30 (95)
5. HPV testing of other tissues (anal, vulvar, penile, oral or esophageal) makes logical sense but is still of unproven value for cancer prevention
6. Circumcision
7. Avoid sex within 48 hrs of skin shaving
8. Avoid sex during active STD, including herpes
9. Treat visible vaginal warts pre-vaginal delivery (may decrease respiratory papillomatosis in newborn)
10. Stop tobacco smoking
11. Ideal health (fitness, weight and sleep) to aid the body's immune system

## 3. Quickie Hepatitis B Overview (Chapter 9)

Hepatitis B is similar to HIV in that it's passed via oral, vaginal or anal sex, childbirth, tainted blood products or shared needles among intravenous drug users. But Hepatitis B is tenfold more infectious than HIV. And Hepatitis B is totally preventable - Hepatitis B vaccination is 99 percent effective and safe. Hepatitis B is a universal infant vaccine. Since 1991 almost all newborns in the United States have been vaccinated.

Hepatitis B infects liver cells of unimmunized individuals, sometimes with no symptoms, sometimes causing a severe illness with extreme exhaustion, jaundice (yellowing of eyes and skin) and itchiness. Hepatitis B is then either naturally vanquished by the body's immune system (95 percent of the time in adults but only 10 percent of time in infants) or it persists for life, resulting decades later in liver damage, cirrhosis, liver cancer and early death.

Hepatitis B infections have been dramatically reduced since the1991 introduction of the extremely effective Hepatitis B vaccination. People from countries not requiring infant vaccination, however, means hundreds of thousands of Americans (422,000) still live with persistent Hepatitis B infection (mostly asymptomatic). There is no cure for those individuals, but recently, excellent treatments —lifelong anti-Hepatitis B medicines similar to the lifelong anti-viral treatments needed to control HIV — have been discovered.

Bottom line, everyone without a prior vaccine history should get a one-time Hepatitis B test — and if unprotected, the Hepatitis B vaccine.

### Hepatitis B Summary:

**Incidence (new U.S. cases/year):** 19,000

**Prevalence (total U.S. cases):** 420,000

**Initial symptoms:** Majority of acute adult infections are asymptomatic but acute Hepatitis B infection, ranging from a mild illness with few or no symptoms to a serious condition requiring hospitalization, can cause exhaustion, jaundice (yellowing of eyes and skin) and itchiness

**Incubation period** (time from infection to initial symptoms): 60 to 90 days

**Window period** (time from infection to blood tests turning "positive"): 30 to 60 days (antibody tests)

**What happens if no treatment:** A new adult infection results in exhaustion, jaundice (yellowing of eyes and skin) and itchiness; 5 percent go on to cirrhosis, liver cancer and need liver transplantation

**Source of infection:** Oral, vaginal or anal sex (increased risk with ejaculation), childbirth or tainted Hepatitis B blood products or shared needles among intravenous drug users

**Infectivity** (Risk of transmission after one condom-less sex act with untreated patient):

**High:** Shared needles among intravenous IV drug users

**Moderate:** Anal sex from infected male – 12 percent risk transmission
Vaginal sex: From infected male – 0.7 percent risk transmission
From infected female - 0.35 percent risk transmission

**Low:** Oral sex, French kissing, sex toys

**Zero:** Breast feeding, coughing or sneezing, tears, hugs, shaking hands, shared personal objects, food or water

**Things that change infectivity:** More readily spread with ejaculation

**Test (accuracy):** Hepatitis B antibody blood test, DNA confirmatory blood test (99 percent)

**Curable?** No

**Treatable?** Yes, lifelong anti-Hepatitis B medicines (similar to the lifelong anti-viral treatments needed to control HIV)

**Prevention (percent risk reduction if known):**

1. Vaccination (99)
2. Condoms (80)
3. Mutual monogamy with uninfected (based on screening blood test(s)) partner (100)
4. One-time Hepatitis B test for unvaccinated individuals or persons born in high risk part of the world

## 4. Quickie Hepatitis C Overview (Chapter 9)

Hepatitis C is the most lethal viral hepatitis. Half of Hepatitis C infections lead to persistent life-long asymptomatic infections – about 30 percent will then, decades later, progress to cirrhosis, liver cancer and early death.

Hepatitis C, like Hepatitis A and Hepatitis B, primarily infects liver cells. It also sometimes presents with no obvious symptoms but often can cause a severe illness with extreme exhaustion, jaundice and itchiness. The lack of an effective vaccination means compared to Hepatitis B, Hepatitis C is much more common – fully 3,500,000 Americans have it, many of whom were born between 1945 and 1964, the "baby boomer" generation. Today, new Hepatitis C infections mainly occur among IV drug users who share needles and in some MSM who engage in high risk sexual activity. Hepatitis C is 20-fold less contagious than Hepatitis B with vaginal sex and thus only infrequently transmitted during vaginal sex or childbirth. In the 1950's and 60's, many Americans unknowingly contracted Hepatitis C, perhaps by some hygiene lapse (possibly by reuse of needles or non-sterile equipment) at doctors' offices, clinics or hospitals.

Hepatitis C is the one viral STD with a complete cure! Since 2014, three separate hepatitis C antiviral cures have been released (successful treatment lengths vary from 8 to 12 weeks). There is currently no preventative vaccine for Hepatitis C. Condoms may help in high risk populations, but as mentioned above, sexual transmission is very uncommon.

Bottom line, a cure is available so it's important we screen all individuals for occult Hepatitis C - everyone should take a one-time Hep C blood test, especially individuals born in the 1950s or 60s. Intravenous drug users and MSM with ongoing risks of contracting Hepatitis C need a yearly blood test.

### Hepatitis C Summary:

**Incidence (new U.S. cases/year):** 31,000

**Prevalence (total U.S. cases):** 3,500,000 (2 percent of those born in the 50s and 60s)

**Initial symptoms:** Majority of people are asymptomatic

**Incubation period** (time from infection to illness): 60 days to years

**Window period** (time from infection to blood tests turning "positive"): 30 to 60 days (antibody tests)

**What happens if no treatment**: Acute adult infection results in exhaustion, jaundice and itchiness; 50 percent spontaneously heal, 50 percent go on to persistent lifelong infection, 30 percent of the persistently infected individuals get cirrhosis, liver cancer and need liver transplantation

**Source of infection:** Contaminated blood products, "dirty" needles for drug use or medical use, possible sharing of drug use equipment, rarely sex or childbirth

**Infectivity:** (Risk of transmission after one condom-less sex act with untreated patient):

- **High:** Shared needles by intravenous drug users
- **Low:** Anal sex with trauma, blood - 0.05 percent risk transmission (2 percent/year with weekly sex)
  Vaginal sex: Infected male - 0.025 percent risk transmission (1 percent/year with weekly sex)

Infected female - 0.02 percent risk transmission (1 percent/year with weekly sex)
Childbirth

**Negligible:** Sex toys, oral sex, French kissing

**Zero:** Breast feeding, tears, hugs, shaking hands, shared personal objects, food or water

**Test (accuracy):** Hepatitis C antibody blood test, DNA confirmatory blood test (99 percent)

**Curable?** Nearly 100% as of 2014!

**Treatable?** Yes! Various once-a-day hepatitis C antiviral therapies for 8 - 12 weeks.

**Prevention (percent risk reduction):**

1. Condoms (80)
2. Mutual monogamy with uninfected (based on screening blood test(s)) partner (100)
3. One-time Hepatitis C blood test for everyone
4. Yearly screening for those at risk (intravenous drug users and some MSM)

## 5. Quickie Herpes Simplex Virus Type 1 and 2 (HSV1 and HSV2) Overview (Chapter 11)

Four decades ago, HSV was no big deal. The rash was transient. The symptoms were mild or nonexistent. Sometimes "cold" sores popped out on the edge of the lip (HSV1). Sometimes the "cold" sores appeared on the genitals (HSV2). Who cared?

Then Americans panicked. The media and big pharma exaggerated tales of the "bad" genital herpes (HSV2): recurrent attacks (in truth rare), extremely painful attacks (in truth rare), childbirth disasters (in truth extremely rare), contagiousness (in truth minimal, i.e. only 1 transmission per one to two thousand sexual exposures) and incurability (true, but so what?). The biggest misconception? HSV2 is the genital, bad herpes. In truth, HSV1 is now the cause of over half of all genital herpes infections.

Both HSV1 and HSV2 infections are typically symptom free. HSV2 essentially only infects genital regions. HSV1 can infect either oral or genital regions. When symptomatic, genital HSV1 presents with small clusters of genital blisters, indistinguishable from HSV2. Both outbreaks look exactly the same. Both outbreaks shed virus when lesions are present. Both outbreaks can shed virus silently about 3 days a month (when no lesions can be seen). In terms of the very rare chance of spread during childbirth, HSV1 is equal if not more of a threat than HSV2.

In America, the frequency of HSV2 is declining – in 2010 16 percent had HSV2 compared with 12 percent in 2016 of adults aged 16-49. Women are twice as likely as men to be infected with HSV2 because of anatomic differences that make it easier for the female genitalia to get infected. HSV1 is also declining - 58 percent (2010) compared with 48 percent (2018) of adults aged 16-49. Eighty percent of Americans older than 70 have HSV1. Women have 20 percent more HSV1 infections than men.

It's possible to get genital herpes merely by rubbing your skin in the "boxer shorts" regions — or having oral contact — with the "boxer shorts" skin of someone actively shedding herpes virus. You can get genital HSV2 or genital HSV1 from a partner who has absolutely never had symptoms or any visible skin findings. Those individuals unaware they are HSV positive transmit the vast majority of new adult genital herpes infections

*If you don't have herpes*: test! Many mistakenly believe they don't have herpes based on never having suspicious symptoms and their doctor never running an accurate herpes test. Also test your partners. Remember it takes 4 weeks for the usual herpes tests to turn positive. Keep your skin barrier intact. Avoid pubic grooming two days prior to sexual contact. Use condoms always (50 percent reduced risk). Lastly, consider this unproven but scientifically plausible approach: Pre-exposure prophylaxis with valacyclovir (or acyclovir) before sex.

*If you know you have genital herpes:* Tell your partner (50 percent reduced risk), always use condoms (50 percent reduced risk) and go on daily valacyclovir or acyclovir (50 percent reduced risk) and lastly avoid pubic grooming in the several days prior to sex.

Bottom line, herpes stigma is unwarranted. The HSV1 strain is not exactly "good," on the other hand, the HSV2 strain is really not so "bad."

### HSV-2 Summary:

**Incidence** (new U.S. cases/year): 1,400,000 (essentially all genital)

**Prevalence** (total U.S. cases): 30,000,000

**Initial symptoms:** Majority of people are asymptomatic. Occasionally, HSV2 presents with groups of small blisters/irritations over the genital, buttock or low back regions

Rarely (< 1 percent) new infections may show up as headache, stiff neck and high fever similar to meningitis.

**Incubation period** (time from infection to illness): 3 - 12 days for symptoms to appear (if they do appear)

Window period (time from infection to blood tests turning "positive"): 14 days (genetic tests) 30 to 45 days (antibody tests)

**What happens if no treatment:** Recurrent noticeable sores/irritations (10 percent) (about 3 - 4 times per year)

Severe recurrent attacks (< 1 percent) possibly including headaches, stiff neck and total body "flu" complaints

Infection of newborn during vaginal child birth rare (< 0.02 percent), but very serious

**Source of infection:**

a) If recurrent obvious symptoms (10 percent): Virus sheds a day prior and during outbreaks and also sheds silently in-between outbreaks
b) If recurrent minor, or unidentified symptoms (40 percent): Virus sheds just before and during outbreaks and also sheds silently in-between outbreaks
c) If no symptoms (50 percent): Virus sheds intermittently (about 3 days a month) thru genital/anal skin

**Infectivity** (Risk of transmission after *one* condom-less sex act with untreated patient):

**Moderate:** Vaginal sex, from infected male – 0.1 percent risk transmission (5 percent a year)
Vaginal sex, from infected female - 0.05 percent risk transmission (3 percent a year)
Anal sex

**Low:** Sex toys, vaginal delivery, romantic touching (petting, hand job)

**Negligible:** Oral sex, French kissing

**Zero:** Breast feeding, tears, hugs, shaking hands, shared personal objects, food or water

**Things that change infectivity:** Extreme pubic grooming within several days of sexual contact may increase HSV infectivity 4-fold.

**Test (accuracy):** Two-stage: Herpes Select antibody PLUS confirmatory Western Blot antibody tests (95-99 percent) or swab DNA test taken from active lesion(s) (99 percent)

**Curable?** No

**Treatable?** Yes, various doses of valacyclovir, acyclovir or famciclovir 2 - 3 times a day for several days.

**Prevention (percent risk reduction if known):**

1. Condom (50)
2. HSV screening tests and if positive, partner notification (50)
3. Reduced transmission to others: Those infected take a daily antiviral drug (valacyclovir 500 to 1000 mg) (50)
4. Avoid sex during active symptomatic breakout (wait until sores fully heal)
5. Mutual monogamy with uninfected (based on accurate screening blood test) partner (100)
6. Avoid sex within 48 hrs of skin shaving
7. Test yourself (remember it takes on average 4 - 6 weeks for the usual herpes test to turn positive)
8. Test new partners
9. Make sure your doctor uses the accurate two-test-process to diagnose HSV2 infection
10. Pre-exposure prophylaxis with 500 to 1000 mg valacyclovir (unproven but possible)

## HSV-1 Summary:

Incidence (new U.S. cases/year): 400,000 (oral, adult onset)
1,200,000 (genital, adult onset)
1,600,000 (oral, childhood onset)

Prevalence (total U.S. cases): 35,000,000 (oral, adult onset)
25,000,000 (genital, adult onset)
67,000,000 (oral, childhood onset)

**Initial symptoms:** Majority of people are asymptomatic. Occasionally, HSV1 presents with groups of small blisters or sores over either oral/facial or genital /buttock/low back regions

**Incubation period** (time from infection to illness): 3 - 12 days for symptoms to appear (if they do appear)

**Window period** (time from infection to blood tests turning "positive"): 14 days (genetic tests) 30 to 45 days (antibody tests)

**What happens if no treatment:** Recurrent noticeable sores/irritations (10 percent) (less frequent than HSV2)

Severe recurrent attacks (< 1 percent) possibly including headaches, stiff neck and total body "flu" complaints (less severe than HSV2)

Infection of newborn vaginal child birth rare (< 0.03 percent), but very serious

**Source of infection:** Individuals shedding HSV1 silently or via oral/facial, genital or anal sores

**Infectivity** (Risk of transmission after one condom-less sex act with untreated patient):

**Moderate:** Vaginal sex, infected male – 0.1 percent risk transmission (5 percent year)
Vaginal sex, infected female - 0.05 percent risk transmission (3 percent year)
Oral Sex

**Low:** Sex toys, vaginal delivery, French kissing, romantic touching (petting, hand job, fingering), kissing and sharing sex toys

**Zero:** Breast feeding, tears, hugs, shaking hands, shared personal objects, food or water

**Test (accuracy):** Two-stage Herpes Select antibody blood test (95 - 99 percent) with Western blot confirmation or swab HSV1 DNA test taken from active lesion(s) (99 percent) (blood tests can not differentiate between oral or genital infection)

**Curable?** No

**Treatable?** Valacyclovir (antiviral) 2000 mg immediately at onset symptoms then repeat one time 12 hours later or other antivirals like acyclovir or famciclovir at different doses

**Prevention (percent risk reduction):**

1. Condom (50)
2. HSV screening tests and if positive, partner notification (50)
3. Avoid sex during active symptomatic breakout (wait till lesions fully heal)
4. Mutual monogamy with uninfected (based on accurate screening blood test) partner (100)
5. Avoid sex within 48 hrs of skin shaving
6. Pre-exposure prophylaxis with 500 to 1000 mg valacyclovir (unproven but possible)

## 6. Quickie Syphilis Overview (Chapter 12)

Syphilis, a deadly bacterial STD that can cannibalize the body from the inside, has reshaped human history - syphilis dementia has affected a veritable who's who of former world leaders. At its zenith, from the 1600's thru the early 1800's, one in five Europeans was infected. Finally, with the advent of antibiotics in the 1940's, syphilis was almost completely eradicated.

But now this corkscrew syphilis bacterium – 500-fold more infectious than HIV - is making an improbable comeback. 88,000 Americans got syphilis last year, a 300 percent increase over the last decade. But that's nothing compared to the situation in South East Asia and Sub Saharan Africa where 8 *million* new cases of this totally treatable malady occur yearly.

Syphilis manifests as superficial painless open sores with heaped-up edges (chancers) on genital skin or in the mouth two to twelve weeks after exposure. It transmits to others with skin to skin contact via kissing, oral, vaginal or anal sex or childbirth. This skin to skin spread (similar to HPV and HSV) lowers the protective effect of condoms to just 50 percent.

If syphilis lesions are ignored, they will entirely resolve. But don't think it's gone. Several months later, the syphilis bacteria reemerge in a second stage characterized by a measles like skin rash and/or sores in the mouth, vagina, or anus along with fever, swollen lymph nodes, and body aches. Those symptoms also completely resolve without treatment. Then, Katie bar the door! Stage three can present months to years later: catastrophic eye, heart, blood vessel, and or brain damage, i.e. the frontpage disaster being progressive dementia.

Syphilis can be easily and accurately diagnosed with a VDRL or RPR screening blood test and if positive (10 - 90 days after exposure) a confirmatory treponemal antibody test is needed.

Unlike the vast majority of viral STDs, all bacterial STDs are completely curable with antibiotics. Penicillin fully cures syphilis, but if treatment begins in the late stages, some organs may have irreversible damage. The route and amount of penicillin depends on the duration of the disease.

Condoms are helpful (50 percent protection) but not a panacea. Testing is key, especially for those at highest risk: heterosexuals with multiple partners should test yearly and MSM with multiple partners should test every 3 months. Avoid sex within 48 hrs of pubic hair removal. Pre-exposure prophylaxis with doxycycline is also effective for high risk individuals.

Bottom line, syphilis is readily curable. All pregnant women and those sexually active with multiple partners should get tested at least once a year.

### Syphilis Summary:

**Incidence** (new U.S. cases/year): 88,000

**Prevalence** (total U.S. cases): 120,000 (few cases stay undiagnosed and persist into stage three)

**Initial symptoms:** Majority are asymptomatic. Sometimes a painless, firm, dime-sized lesion (chancre) appears anywhere on oral-genital skin

**Incubation period** (time from infection to illness): 10 to 90 days

**What happens if no treatment:** 1-3 months after the initial chancre (painless sore), a total body

rash with symptoms of fever, tiredness and swollen glands may appear. 25 percent of infected individuals then progress over the next decade to permanent eye, heart and brain damage.

**Source of infection:** Skin to skin transmission from oral, vaginal and anal sex and less likely kissing, childbirth and rarely blood transfusions

**Infectivity** (Risk of transmission after one condom less sex act with untreated patient)

**High:** Vaginal sex, infected male – 30 percent risk transmission
Vaginal sex, infected female – 30 percent risk transmission
Anal sex, infected male – 30 percent risk transmission
Oral sex, infected male – 30 percent risk transmission

**Moderate:** French kissing

**Low:** Kissing, sex toys, romantic touch (petting, hand job, fingering), childbirth

**Negligible:** Blood transfusions (in U.S.)

**Not infectious:** Breast feeding, tears, hugs, shaking hands, shared personal objects, food or water

**Test (accuracy):** Syphilis antibody test, confirmed by treponemal test (99 percent)

**Curable?** Yes, if detected in early stages

**Treatable?** Yes, penicillin injections depending on duration of disease.
Primary or secondary syphilis or syphilis of less than one-year duration:
Penicillin injection, one dose. Treated people need to abstain from sexual contact for 7 days.

Syphilis of unknown duration with absolutely no signs or symptoms:
Penicillin injection, weekly for 3 weeks. Treated people need to abstain from sexual contact for 21 days.

Third stage disease, any evidence of eye, heart, or brain involvement:
Penicillin intravenous for 2 weeks, then a penicillin injection.

**Prevention (percent risk reduction if known):**

1. Condoms (50)
2. Mutual monogamy with uninfected (based on screening blood tests) partner (100)
3. Testing, especially for those at highest risk: heterosexuals with multiple partners or in MSM with multiple partners every 3 months to one year
4. Avoid sex within 48 hrs of skin shaving
5. PrEP/PEP (pre- or post-exposure prophylaxis): 100 mg of doxycycline daily or 200 mg of doxycycline one time before or immediately after sex