

Biology 204: Human Anatomy & Physiology

Sexually Transmitted Diseases

General Points

- Life begets life
- Parasitism arises spontaneously in self-replicating systems
- Many organisms parasitize other organisms' reproductive cycles
- Knowledge of biology is empowering & can help you make informed decisions about your behavior
- Infectious Agents & STD's can be found in many Kingdoms & Phyla

Bacteria

Gonorrhea

bacterial
can cause pus-filled discharges from reproductive tract
can infect newborns from mother
the rate of infection was at least 1% in Illinois females aged 15-19 in 1996
new strains of "supergonorrhea" are resistant to antibiotic treatment

Syphilis

caused by spirochete bacteria
beings with open sores
goes into hiding where it can get into the central nervous system
is treatable if caught early, but untreatable once into tertiary (3rd) stage
can cause insanity, paralysis, & death

Chlamydia

bacterial
rate has risen dramatically in last 2 decades, especially in women
may not present any symptoms, therefore remain undetected for long periods of time
can cause pelvic inflammatory disease, which can lead to reproductive problems & sterility

Protozoans

Trichomoniasis

caused by a flagellated protozoan
may be undetected in males
can cause itching, bad odor, & yellow-green secretions in females
treatable with serious antibiotics

Amoebiasis

typically transmitted by anilingus

Arthropods

Scabies

caused by mites that burrow under the skin while defecating and laying eggs
causes extreme itching
can be transmitted sexually or from close contact
there was an outbreak in a dorm here several years ago
scabies is also common in nursing homes

Crab Lice

grab onto pubic hairs with specialized hooks
lay eggs called nits at the base of hairs
lice & or nits in eyelashes of children may be diagnostic of sexual abuse

Viruses

Human Papilloma Virus (HPV)

cause Genital Warts
HPV is highly correlated with the development of cervical cancer & may be linked to prostate cancer!
The efficacy of condoms for preventing HPV is not clear!

Herpes Simplex

oral
genital
open sores
outbreaks linked to exposure sunlight &/or stress
virus can be shed even if sores are not open
can be serious if eyes get infected

Human Immunodeficiency Virus (HIV)

Can lead to Acquired Immunodeficiency Syndrome (AIDS)
Opportunistic secondary infections generally result in serious illness & death.
Can include, but is not limited to:

- *Pneumocystis carinii* is normally kept in check by an intact immune system but can cause pneumonia in AIDS patients
- thrush (yeast infections)
- Kaposi's Sarcoma is a cancer that is linked to a herpes virus that is normally kept in check by the immune system. In the absence of immunity, the cancer results
- Cytomegalovirus (CMV) is another virus that is normally kept in check by a healthy immune system but can run wild, particularly in the eyes in AIDS patients.

Extreme weight loss caused is by increased metabolic needs of fighting infections & diarrhea
Prevalence of HIV infection is about 1 in 500 college students, thus statistically MC is likely to have 2-3 people infected with HIV. This is an average, so actual prevalence could be lower or much higher.

Note: This is not an exhaustive list of STD's. There are many others, and all are evolving or have the potential develop resistance to current treatments. For example, a new strain of HIV that is resistant to 3 of the 4 major drug treatments has just emerged in New York City.

Animated Map of HIV Epidemic at:

<http://www.cdc.gov/hiv/graphics/images/dotmaps/dotmapan.htm>

The Bottom Line: You have free will in how you choose to live your life. To make informed decisions, you must be aware of the risks associated with certain behaviors. You also have a responsibility for the well-being of others. Abstinence is one way to avoid these diseases. Practicing safe-sex is another. These diseases do not discriminate on the basis of anything (e.g., sex, race, religion, gender, etc.). They are truly equal opportunity!