UTIs and STDs

Terms you should know:

<table>
<thead>
<tr>
<th>UTI</th>
<th>STD</th>
<th>endoflagellum</th>
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<tbody>
<tr>
<td>urethritis</td>
<td>antigenic variation</td>
<td>chancrer</td>
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<tr>
<td>cystitis</td>
<td>spirochete</td>
<td>latent</td>
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<tr>
<td>pyelonephritis</td>
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**Escherichia coli** (and other enterobacteria)

**Description:** Gram-negative rods, ferments lactose (coliform)

**Diseases:** UTIs: urethritis, cystitis, pyelonephritis

**Virulence factors:** Type 1 pili for adherence to epithelial tissue

**Treatment:** Prevent by drinking fluids to increase flushing action (esp. cranberry juice)
Treat with cefalexin (many strains resistant to other antibiotics)

**Reservoir and spread:** Usually spreads from intestinal tract to urethra; women more susceptible

**Neisseria gonorrhoeae**

**Description:** Gram-negative cocci, oval or bean-shaped, occur in pairs

**Diseases:** Gonorrhea

**Virulence factors:** Pili (bind epithelial tissue of vagina, urethra, uterus, throat, rectum, eye)
Endotoxin, antigenic variation

**Treatment:** Cephalosporin antibiotics (most strains now penicillin resistant)
Poor natural immunity (due to variation) makes vaccine unlikely

**Reservoir and spread:** Human reservoir only; sexually transmitted, survives poorly outside host

**Treponema pallidum**

**Description:** Spirochete (Gram-negative spiral-shaped cells with endoflagellum)

**Diseases:** Syphilis: primary (genital chancre), secondary (systemic), tertiary (damage to nerves and circulatory system on reactivation after long latent period)

**Virulence factors:** Hooked end for attachment, hyaluronidase for spread

**Treatment:** Penicillin (no resistance observed) effective at all three stages

**Reservoir and spread:** Human reservoir only; sexually transmitted
Hopefully will be eliminated from US by 2005 (<7000 cases/year now)

**Chlamydia trachomatis**

**Description:** Tiny Gram-negative rods, obligate intracellular parasite

**Diseases:** Chlamydia; can result in infertility or ectopic pregnancy

**Treatment:** Erythromycin

**Reservoir and spread:** Human reservoir only; sexually transmitted, can infect baby at birth