

Prenatal Infection

CLIENT ASSESSMENT DATA BASE

Activity/Rest

Malaise, fatigue
Generalized weakness
May report difficulty sleeping
Poor muscle tone/muscle wasting

Circulation

May be jaundiced

Elimination

Dysuria, urinary frequency, decreased urine output, hematuria

Food/Fluid

Nausea, vomiting, anorexia, weight loss.
Tongue may have visible lesion or sore (hairy leukoplakia seen in AIDS).
May report indigestion, altered taste.
Loss of subcutaneous fat.
Poor skin turgor.

Pain/Discomfort

Backache, flank pain, colicky pain noted with acute pyelonephritis.
Chest pain may occur with tuberculosis.
Severe itching, burning pain with lesions.
May complain of pruritus with active (infectious) hepatitis A or B.

Respiration

Dyspnea with exertion.
Cough may be productive of thick/purulent/blood-tinged sputum or may be nonproductive.
Crackles (rales), wheezes, bronchial breath sounds; tubular breath sounds, diminished/absent breath sounds over areas of pleural effusion or pneumothorax (tuberculosis).

Safety

Temperature elevation dependent on type of infection, e.g., low-grade in cystitis, high fever in pyelonephritis
Chills, night sweats
History of UTI
Positive cultures, elevated titers, positive screening for infectious disease
Exposure to body fluids or blood products through professional practice or through receiving a transfusion parenterally as a patient; carrier of group B beta-hemolytic streptococci (GBS) or of hepatitis B virus (HbsAg, anti-HBcAg)
Exposure to infectious agents through employment/environmental contact

Sexuality

May have history of early trimester pregnancy loss(es).
May currently have, or have previous exposure to, numerous heterosexual/bisexual partners, which increases risk for exposure to HIV and STDs; sexual partner may be hemophilic, necessitating blood transfusions and placing him at risk for acquisition of HIV.
Vaginal discharge may be frothy, gray-green (trichomonal infection); whitish (candidal infection); thin, watery, yellow-gray, foul-smelling, "fishy" (*Gardnerella vaginalis* infection).

Strawberry patches on vaginal walls/cervix (trichomonal infection).
May have visible perineal or genital warts, lesions, or chancres.
Fundal height may not be AGA, possibly indicating IUGR associated with rubella or toxoplasmosis, or may correspond with gestational age of less than 37 wk, indicating increased risk for GBS.
Membranes may rupture prematurely (PROM).

Social Interaction

Immigrants from Africa or Haiti may have increased risk of AIDS; immigrants from Southeast Asia, Central America, or the Caribbean islands may have increased risk of infectious or carrier state of hepatitis B virus (HBV); Native Americans, inner city, lower socioeconomic population, and immigrants from underdeveloped countries also have increased risk of tuberculosis.

Teaching/Learning

Risk factors include diabetes, malnutrition, drug/alcohol addiction, anemia.

DIAGNOSTIC STUDIES

Urinalysis/Serum, Culture and Sensitivity: Detects UTI, asymptomatic bacteremia, or GBS.

RPR or VDRL: Tests for syphilis.

Vaginal, Rectal, and Cervical Smears: Determines presence of gonorrhea, chlamydial infection, bacteria, GBS, or genital herpes.

Viral Titers: Identify presence of rubella and CMV.

Mantoux Skin Test with Purified Protein Derivative (PPD): Significant positive reaction suggests tuberculosis but does not distinguish between an active/dormant infection, or an infection caused by a different mycobacteria.

Hepatitis/HIV Screening: Done in presence of high-risk behaviors.

ELISA: Screens for HIV.

Western Blot Test: Confirms HIV infection.

Complete Blood Count (CBC): Reveals anemia and indicators of infection (elevated WBC, differential shifted to the left).

Nucleic Acid Probe Test: Detects *Mycobacterium tuberculosis*.

Chest X-Ray: Visualizes nodular lesions, patchy infiltrates, cavitation, scar tissue, calcium deposits (tuberculosis).

Histology/Tissue Analysis, Needle Biopsy: To verify stage of tuberculosis.

Serial Ultrasonography: Detects IUGR.

Specimen of Vaginal Pool: Determines PROM.

NURSING PRIORITIES

1. Identify/screen for prenatal infection.
2. Provide information about protocol of care.
3. Promote client/fetal well-being.

DISCHARGE GOALS

1. Individual risks/conditions understood
2. Condition, prognosis, treatment needs understood
3. Participates effectively in therapeutic regimen
4. Pregnancy maintained as appropriate/desired

NURSING DIAGNOSIS:

May Be Related To:

Infection, risk for maternal/fetal

Inadequate primary defenses (e.g., broken skin, stasis of body fluids), inadequate secondary defenses (e.g., decreased hemoglobin,

May Be Related To (cont.):

immunosuppression), inadequate acquired immunity, environmental exposure, malnutrition, rupture of amniotic membranes

Possibly Evidenced By:

[Not applicable; presence of signs/symptoms establishes an *actual* diagnosis]

DESIRED OUTCOMES/EVALUATION CRITERIA—CLIENT WILL:

Verbalize understanding of individual causative/risk factors.

Review techniques and lifestyle changes to reduce risk of infection.

Achieve timely healing, free of complications.

ACTIONS/INTERVENTIONS

RATIONALE

Independent

Review lifestyle and profession for presence of associated risk factors.

Drug abusers and healthcare professionals are at risk for exposure to HIV/AIDS and HBV through contact with contaminated needles, body fluids, and blood products; tuberculosis through air-borne droplets.

Obtain information about client's past/present sexual partners and exposure to STDs.

Multiple sexual partners or intercourse with bisexual men increases risk of exposure to STDs and HIV/AIDS.

Assess client's cultural background for risk factors.

Recent arrivals from Asia, South America, and the Caribbean islands have increased risk of exposure to HBV. In Africa, male-to-female ratio of HIV is 1:1 owing to cultural sexual practices, poor hygiene, and inadequate healthcare.

Assess for specific signs and symptoms; notify healthcare provider if present:

Identifiable signs of infection assist in determining mode of treatment. Some organisms have a predilection for the fetoplacental unit and the neonate, although the client may be asymptomatic; i.e., *Mycoplasma* and *Ureaplasma* organisms affect a significant number of pregnant women and have been cultured in aborted fetuses, even though the mothers have been free of symptoms.

Visible lesions/warts;

May indicate herpes simplex virus type II (HSV-II)/condyloma, which can be transmitted to newborn at time of delivery if lesion is present at term or if viral shedding is occurring.

Urinary frequency; dysuria; cloudy, foul-smelling urine;

May be associated with *Escherichia coli* or GBS, or client may have asymptomatic bacteriuria.

Change in color, consistency, and amount of vaginal discharge.

Gray-green discharge may indicate trichomoniasis; thick white discharge may indicate *Candida albicans* infection; thin, watery, yellow-gray foul-smelling ("fishy") discharge suggest *Gardnerella*; thin or purulent drainage may reflect *Chlamydia*.

Determine if viral infection is primary or recurrent.

Both herpes viruses (CMV and herpes simplex virus II [HSV-II]) recur in times of stress. Yet only primary CMV is problematic to the fetus, and only 50% of fetuses exposed are affected. Although recurrent HSV-II is associated with reduced viral shedding time, the newborn, if exposed to the virus at delivery, can be affected with either visible lesions or a disseminated type of the disease.

Determine status of maternal membranes. If they are ruptured, monitor for signs of blood cell count and FHR; or vaginal discharge having an odor)

Infectious organisms transmitted via the ascending route including *Chlamydia*, mycoplasmas, *Ureaplasma urealyticum*, develop bacteremia and pneumonia or possibly meningitis.

Collaborative

Monitor progressive growth of fundal height based on serial ultrasonography.

Evaluates fetal growth infections such as rubella and toxoplasmosis, which can result in IUGR.

Obtain appropriate specimens and laboratory/ diagnostic studies as indicated:

Urine for routine urinalysis, culture, and sensitivity;

Asymptomatic bacteriuria (colony count greater than 100,000/mL) occurs in as many as 12% of prenatal clients and has been associated with acute and chronic pyelonephritis, preterm delivery, chorioamnionitis, postpartal maternal sepsis, and congenital defects. From 1%–5% UTIs are linked to GBS, which is the leading cause of neonatal meningitis.

Vaginal/rectal culture for gonococci/chlamydiae;

Approximately 40%–60% of patients with culture-positive gonococcus have concomitant chlamydial infection, the most common STD associated with conjunctivitis and pneumonia of the newborn. Other than ophthalmia neonatorum, gonorrheal infection of the newborn is infrequent, but does increase rate of neonatal mortality associated with overwhelming infection.

Vaginal/cervical culture for *Listeria monocytogenes* and GBS;

Fever of nonspecific origin and history of abortions, neonatal meningitis, sepsis, congenital listeriosis, or postpartal maternal sepsis may indicate recurrent listerial infections requiring treatment. From 5%–30% of women have positive cultures for GBS, yet may be asymptomatic. Although antipartum treatment for GBS carriers is not recommended, intrapartum treatment with antibiotics is indicated for all women with positive cultures.

Rubella titer;

From 5%–15% of women of childbearing age are still susceptible to rubella, which has identifiable teratogenic effects on the fetus. If rubella is contracted in the first trimester, the fetus has no chance of escaping teratogenic effects. If rubella is contracted in the second trimester, the fetus has a 50% chance of being affected.

Serum for hepatitis B screen for clients in high-risk group (e.g., Asians, Central Americans, natives of Caribbean islands);

Hepatitis in the first and second trimesters rarely affects the fetus. Women who contract hepatitis in the third trimester have a 60% chance of transmitting it to offspring coming in contact with blood products at the time of delivery. Carrier status can be passed on to infants if they are not treated at birth. This can

Serum for HIV screen if high-risk behaviors are present (injection drug users; healthcare professionals, laboratory technicians, dialysis workers; those having exposure to bisexual partners, recipients of blood or blood product transfusions);
Serum for CD4+, T-lymphocyte count;

Assist as necessary with sputum collection and chest x-rays for client with respiratory symptoms.
Administer antibiotics/medications as indicated:
Penicillin/penicillin G, erythromycin and Ceftriaxone or spectinomycin;

Acyclovir (Zovirax) capsules;

HPA-23 and zidovudine (Retrovir, formerly AZT);

Pyrimethamine (Daraprim) and sulfadiazine;

Folic acid;
Miconazole (Monistat), tioconazole (Vagistat) or clotrimazole (Mycelex) suppositories/vaginal tablets;
Metronidazole (Flagyl);

Isoniazid (INH) in combination with rifampin (Rifadin) and the addition of ethambutol (Myambutol) when INH resistance is suspected;

Hepatitis A or B immune globulin (HAIB/HBIG).

Prepare for/assist in transfer to tertiary care center as indicated. (Refer to CP: The High-Risk Pregnancy.)

possibly result in cirrhosis and hepatocellular carcinoma.

AIDS destroys the immune system, causing a variety of problems, including HSV-II, CMV, toxoplasmosis, candidiasis, Kaposi's sarcoma, and pneumonia.

Determines number of T₄ helper cells to monitor progression of HIV.

Helps in identifying causative organism in bacterial pneumonia and active tuberculosis. Note: Tuberculosis is not exacerbated by pregnancy.

UTI, listeriosis, gonorrhea, syphilis, bacterial pneumonia, all respond to antimicrobial treatment. Note: Prenatal treatment of client who is carrier of GBS is not effective, because recolonization can occur before birth, with infant still at risk for neonatal sepsis or meningitis.

Generally not recommended in treatment of HSV-II, unless primary infection disseminates.

Although controversial, these drugs are approved by the FDA and have been shown to reduce transmission to the fetus by 68% and to prolong life in HIV-positive clients. Research suggests ZVD administration in the second trimester can reduce maternal transmission of HIV to the neonate by over 60%.

Controls active disease progression in toxoplasmosis, but have known teratogenic effects on fetus during the first and probably second trimesters.

Counteracts side effects of pyrimethamine.

Indicated for treatment of *Candida albicans*. Note: Diabetic client is prone to monilial infection, which may be extremely resistant to prenatal treatment.

Indicated for treatment of trichomonal infections after 20 weeks' gestation. Treatment in the first 20 weeks' is symptomatic; the trichomonal infection may be receptive to Mycelex vaginal suppositories. Note: Both partners must be treated to prevent reinfection.

Treatment of choice for tuberculosis (or seroconversion to positive PPD in last 2 yr), with no known teratogenic effects. Streptomycin is avoided, owing to its association with vestibular and auditory defects, and pyrazinamide is also contraindicated. If time of seroconversion is unknown and chest x-ray is negative, treatment is begun after pregnancy; or if client is over age 35 with unknown or prolonged positive PPD, INH prophylaxis is not recommended in the absence of active disease because of risk of hepatotoxicity. Note: Pyridoxine (vitamin B₆) is recommended for any pregnant woman receiving INH.

Recommended for exposure to hepatitis A or B.

Availability of staff and equipment ensures optimal care of high-risk client and fetus/newborn.

Prepare for termination of pregnancy or labor induction, as indicated. (Refer to CP: Labor: Induced/Augmented.)

Pregnancy may be terminated for such conditions as toxoplasmosis occurring prior to 20 wk gestation or rubella in the first trimester. Note: AZT in combination with cesarean birth decreases neonatal HIV infection rate, allowing pregnancy to be carried to term as appropriate, in presence of maternal HIV infection.

NURSING DIAGNOSIS:

Knowledge deficit [Learning Need], regarding treatment/prevention, prognosis of condition

May Be Related To:

Lack of exposure to information and/or unfamiliarity with resources, misinterpretation

Possibly Evidenced By:

Verbalization of problem, inaccurate follow-through of instructions, development of preventable complications/continuation of infectious process

DESIRED OUTCOMES/EVALUATION CRITERIA—CLIENT WILL:

Identify appropriate preventive practices.

Adopt behaviors/lifestyle changes as indicated.

Follow-through with individual treatment regimen.

List signs and symptoms that necessitate evaluation/intervention.

Verbalize understanding of importance of providing necessary information for data collection.

ACTIONS/INTERVENTIONS**RATIONALE**

Independent

Identify signs/symptoms of infection. Discuss importance of prompt reporting to healthcare provider.

Maternal infection may not be serious, but can have serious implications for the fetus. Timely intervention may prevent complications and enhance likelihood of a positive outcome.

Discuss mode of transmission of specific infections, as appropriate.

Provides information to assist the client in making decisions relative to lifestyle/behavioral changes; reinforces need for partner to be treated.

Provide information concerning identified risks associated with client's employment or profession. Stress use of gloves and need for washing hands when client must handle blood products, saliva, or urine.

Dialysis workers and healthcare professionals who handle body fluids or blood products are at high-risk for exposure to HSV-II, HIV, and HBV, and need to use universal precautions.

Identify risk factors associated with client's lifestyle.

Injection drug users are susceptible to percutaneous transmission of HSV-II, HBV, HIV/AIDS, and other STDs. Involvement with multiple sex partners also increases risk of being infected.

Discuss importance of avoiding contact with persons known to have infections, such as upper respiratory infections, tuberculosis, rubella (if not immune), and hepatitis. Stress the need for immunization for rubella after delivery as indicated.

Review hygiene measures, including wiping vulva from front to back after urinating and washing hands frequently (including after animal contact.)

Encourage client to drink 6–8 glasses of fluid per day and to void regularly. Discuss results of urine test.

Suggest client void following intercourse.

Recommend wearing gloves while gardening, avoiding contact with cat litter boxes while pregnant, and cooking meats to appropriate internal temperatures.

Suggest alternative means of sexual gratification for client with active HSV-II, HIV/AIDS, or HBV.

Provide information about possible effects of infection on client/fetus.

Discuss necessary treatments that may have serious fetal implications, such as sulfadiazine and pyrimethamine (used to treat toxoplasmosis), or oral sulfonamides (used to treat UTI during the latter weeks of gestation).

Preventing exposure helps reduce the risk of acquiring infection. From 5%–15% of women of childbearing age are still susceptible to rubella, which is spread by droplets. Immunization after delivery results in immunity during subsequent pregnancies.

Helps prevent rectal *E. coli* contaminants from reaching the vagina and reduces contamination with other viruses/bacteria that may be transmitted by poor hygiene practices. Listerial infection is thought to be transmitted via animal contact.

May help prevent UTI associated with stasis. Client with asymptomatic bacteriuria (colony count greater than 100,000/ml) may be at risk for premature delivery, congenital defects in offspring, or anemia.

May prevent/reduce risk of UTI and transmission of STD, especially CMV, and nongonococcal urethritis.

Helps prevent toxoplasmosis, most commonly acquired in the United States through contact with cat feces. Some French and Japanese meat dishes are eaten raw or undercooked, thereby increasing the risk of acquiring toxoplasmosis.

Fondling or masturbation for sexual gratification helps prevent spread of infection to sexual partner.

Infection affects approximately 15% of all pregnancies. For some infections, such as rubella, the outcome may be fairly predictable, if the gestational age at which the fetus was exposed is known. For other maternal infections, such as those caused by *Ureaplasma*, *Mycoplasma*, or *Listeria* organisms, it is more difficult to predict the fetal/neonatal outcome, especially because the client may be asymptomatic. Most infections do not pose serious problems to the mother, but can have varying effects on the fetus. Two thirds of these exposed infants are infected in utero, with resultant effects on the liver and brain. Ascending tract infections have a greater chance of resulting in neonatal bacteremia and pneumonia.

These medications have known teratogenic effects on newborn. When toxoplasmosis is present, the fetus can be damaged by either the disease or the treatment. Neonatal hyperbilirubinemia and kernicterus may occur with the use of oral sulfonamides.

Review available options in cases of known teratogenic effects.

Fetus is more susceptible to effects of rubella early in gestation. HBV poses more risks for the fetus in the third trimester. Teratogenic effects of toxoplasmosis include growth retardation, CNS calcification, microcephaly, hydrocephaly, and chorioretinitis. In cases of rubella infection or toxoplasmosis, client/couple may elect to terminate the pregnancy, depending on stage of gestation in which exposure occurs.

Discuss possible effects of infection on type and timing of delivery.

Operative delivery may be indicated in the case of certain infections, such as HSV-II if client has active herpes with intact membranes or if membranes are ruptured for more than 4–6 hr. If client or fetus has developed an ascending tract infection following PROM, fetus may need to be delivered prior to term to prevent maternal/fetal sepsis.

Discuss implications of PROM for client and fetus/neonate.

Membrane rupture more than 18 hr before delivery increases the risk of ascending tract infection, with resultant chorioamnionitis and maternal/neonatal sepsis. Common causative organisms in ascending tract infections include GBS, *Chlamydiae*, and *Haemophilus influenzae*.

Discuss implications of specific disease process/treatment as appropriate:

UTIs;

Client may have asymptomatic bacteriuria with large colony counts (greater than 100,000/ml), and culture may be positive for GBS, *Ureaplasma* organisms, or *Mycoplasma* organisms, placing client at risk for sepsis during and following delivery, and placing the newborn at risk for early- or late-onset infection.

Listeriosis and treatment with penicillin;

It is uncertain how the fetus/infant contracts listeriosis; however, the infection can result in abortion if it is contracted between 17 and 28 weeks' gestation, or cause newborn problems such as meningitis, mental retardation, or hydrocephaly if it is contracted after 28 weeks' gestation.

GBS and antibiotic treatment for the chronic carrier;

Occurring in 5%–30% of pregnant women, GBS is the leading cause of neonatal meningitis and is associated with neonatal sepsis, and with chorioamnionitis if it occurs at 37 weeks' gestation and is accompanied by PROM. Treating client with antibiotics (penicillin) prior to 38 weeks' gestation is ineffective because the bacteria will probably recolonize before delivery. Antibiotics given after 38 weeks' gestation effectively treat the client, but not the fetus. However, intrapartur treatment for clients with positive GBS culture (between 35 and 37 wk) or prophylaxis for at-risk clients may be useful in preventing GBS disease in the neonate.

Chlamydial infection and prenatal treatment with antibiotics;

Chlamydia transmitted to the fetus through the ascending route can cause conjunctivitis or pneumonia in the first 3–4 mo after birth.

Neisseria gonorrhoeae;

Transmission by sexual contact requires that both partners be treated, that condoms be used, and that

<p>Hepatitis A or B, including designation of hepatitis B carrier state (involving HBV, HBsAg, anti-HbcAg);</p>	<p>orogenital sex is avoided until post-treatment cultures are negative at two consecutive follow-up visits. Exposure to hepatitis A or B may result in fetal anomalies, preterm birth, intrauterine fetal death, or fetal/neonatal hepatitis. Chronic HBV carrier states can result in cirrhosis and hepatocellular cancer.</p>
<p>HSV-II;</p>	<p>Spread occurs through sexual contact during viral shedding, which lasts 21 days in active primary infections and 12 days in recurrent infections. A stressor such as pregnancy may cause viral shedding.</p>
<p>Positive HIV status;</p>	<p>Incubation periods for HIV range from 6 mo to 5 or more yr. Because of its immunosuppressive properties, HIV/AIDS results in opportunistic infections, which include pneumonia, meningitis, and encephalitis, caused by CMV, herpes viruses, <i>Toxoplasma</i>, <i>Histoplasma</i>, <i>Candida</i>, or <i>Pneumocystis carinii</i>.</p>
<p>Primary, secondary, and tertiary stages of syphilis and treatment with penicillin;</p>	<p>Administration of penicillin effectively treats the fetus/newborn. The spirochete does not cross the placenta until 16–18 weeks' gestation. Primary and secondary stages of untreated syphilis may lead to stillbirth; tertiary stage results in congenital syphilis of the newborn.</p>
<p>Primary CMV infection during pregnancy;</p>	<p>Although CMV can recur in times of stress, only primary CMV can potentially cause cytomegalic inclusion disease in 50% of the offspring of affected mothers.</p>
<p>Supplemental pyridoxine (vitamin B₆).</p>	<p>Helps prevent peripheral neuropathy when INH is used to treat active tubercoslsis.</p>
<p>Discuss newborn care and the need for follow-up in infants born to mothers in active or carrier state of HBV.</p>	<p>Bathing the newborn immediately after delivery and administering HBIG and hepatitis B vaccine will prevent the newborn from contracting the virus. Follow-up immunizations of the newborn with hepatitis B vaccine at 1 and 6 mo are then necessary.</p>
<p>Provide information, specific to infection, regarding possible long-term effects and incubation period</p>	<p>For example, longitudinal studies of children at age 3.5–7 yr show that effects of CMV are ongoing, resulting in learning disabilities, motor deficits, deafness, and lower than normal IQs.</p>
<p>Identify self-help groups and sources of community supports.</p>	<p>May help client in gathering information and resolving issues.</p>

NURSING DIAGNOSIS:

[Discomfort]

May Be Related To:

Body response to infective agent, properties of infection (e.g., skin/tissue irritation, development of lesions)

Possibly Evidenced By:

Verbal reports, restlessness, withdrawal from social contact

DESIRED OUTCOMES/EVALUATION CRITERIA—CLIENT WILL:

Identify/use individually appropriate comfort measures.

Report discomfort is relieved/controlled.

ACTIONS/INTERVENTIONS

RATIONALE

Independent

Identify source, location, and extent of discomfort; note signs and symptoms of infectious process.

Determines course of treatment and individual interventions.

Suggest increasing fluid intake and voiding in warm sitz bath for client with UTI.

Helps prevent stasis; warmth relaxes perineum and urinary meatus to facilitate voiding.

Provide information about hygienic measures such as frequent bathing, use of cotton underwear, and application of cornstarch for client with vaginal discharge associated with STDs (chlamydial infection or gonorrhea).

Helps promote dryness and prevent skin breakdown.

Provide information regarding use of warm sitz baths, use of hair dryer on genital area, urinating through an empty toilet paper tube, and wearing loose-fitting jeans/pants and cotton underwear for client with HSV-II.

Helps keep genital area dry/clean; prevents discomfort associated with urine coming in contact with lesions.

Encourage rest for client who has tuberculosis or flulike symptoms associated with listeriosis, rubella, or toxoplasmosis.

Reduces metabolic rate; facilitates response of individual immune system to infection.

Suggest use of humidified air, increased fluid intake, and use of semi-Fowler's position during sleep for clients with respiratory infections, such as tuberculosis.

Helps liquefy secretions and facilitates respiratory functioning. Upright position allows diaphragm to descend, thereby facilitating lung expansion.

Collaborative

Administer medications as indicated:

Analgesics (e.g., acetaminophen, codeine);

Relieves discomfort associated with backache, neuralgia, cervical lymphadenopathy, and perineal lesions. Note: In toxic levels, acetaminophen can cause liver damage. Use of acetylsalicylic acid (ASA) can result in alteration of fetal clotting.

Antipyretics;

Reduces fever and chills. Note: In client with PROM, administration of analgesic that may have antipyretic properties (e.g., acetaminophen) should be avoided because it may mask temperature rise that would signal infection.

Antibiotics specific to organisms cultured;

Eradicates organisms associated with UTI, bacterial pneumonia, STDs (gonorrhea, syphilis, chlamydial infection), and listeriosis. Relieves flulike symptoms associated with listeriosis.

HPA-23;

An experimental anti-AIDS drug that may help reduce discomforts associated with HSV-II, candidiasis, pneumonia, and Kaposi's sarcoma.

Lidocaine hydrochloride (Xylocaine) ointment.

Helps provide local anesthesia to herpetic lesions.