

Glossary of HIV-Related Terms

A

abacavir (Ziagen®, ABC)

a nucleoside analogue reverse transcriptase inhibitor (NRTI). Abacavir, a component of Epzicom®, Kixiva® (extra-US), and Trizivir®, can cause a life-threatening allergic-type reaction in ~8% of people. An assay can determine if you are susceptible to the hypersensitivity (if you have HLA-B*5701).

abscess

a localized accumulation of pus associated with a localized infection and inflammation.

absolute CD4 cell count

the number of CD4 cells in a cubic millimeter (mm³) of blood. The number is calculated by multiplying the CD4 percent by the lymphocyte count. See also CD4 cell count.

accelerated approval

early marketing approval of promising drugs for life-threatening illnesses governed by FDA regulations.

acquired immune deficiency syndrome (AIDS)

a disease of the body's immune system caused by the human immunodeficiency virus (HIV). AIDS is characterized by the death of CD4 cells (an important part of the body's immune system), which leaves the body vulnerable to life-threatening conditions such as infections and cancers.)

ACH-126,443 (elvucitabine, Beta-L-Fd4C)

an anti-HIV and anti-HBV L-nucleoside analogue with a 24-hour half-life that may avoid or reverse mitochondrial toxicity, perhaps effective against resistant HIV virus.

ACTG, AIDS Clinical Trials Group

NIH Division of AIDS therapeutic research network

active immunity

immunity naturally produced by the body's own immune system in response to stimulation by foreign antigens. Contrast with passive immunity.

active immunization

a process by which a person is inoculated with an antigen to encourage the immune system to mount an immune response, eg, by producing antibodies. Contrast with passive immunization.

acute retroviral syndrome (ARS)

a combination of clinical symptoms, often compared to the flu (eg, fever, sore throat, skin rash, headache, nausea, muscle or joint pain) that accompany primary HIV infection or occur shortly after infection.

Acyclovir, Zovirax®

an antiviral drug used to treat herpes simplex virus types 1 and 2 and varicella-zoster virus infections.

adefovir dipivoxil (Preveon®, ADV)

a nucleotide analogue used in HBV treatment. Studied for HIV, it was shown to be renally toxic. At much lower doses, it is effective against HBV.

adjunct

something joined or added to the original. Adjunct therapy or treatment is a treatment that is given in addition to the main or primary treatment.

adjuvant

a substance added to a drug or vaccine that increases its effect.

adjuvant therapy

a type of therapy that improves the outcome of a primary therapy, eg, radiation and chemotherapy are adjuvant therapies in relation to cancer surgery.

adrenal gland

an organ located above each kidney that produces various hormones. The medulla (inner part) of the adrenal gland secretes adrenaline (epinephrine); the cortex (outer part) secretes steroids such as cortisol and certain androgens. The adrenal cortex is stimulated to produce hormones by the pituitary hormone ACTH; reduced secretion (adrenal insufficiency) can lead to fatigue, anorexia, and weight loss.

adverse reaction (adverse event, side effect)

any unfavorable reaction or side effect ie, due to treatment with a drug. Adverse reactions may range from mild effects such as rash, headache, nausea, or drowsiness, to more severe effects such as peripheral neuropathy, bone marrow suppression, seizures, and liver or kidney failure.

aerosolized pentamidine, Nebupent®

a drug inhaled as a fine mist for prophylaxis against Pneumocystis jiroveci pneumonia, still a big killer of people with AIDS (PCP).

agonist

an agent that binds to a receptor on a cell's surface and promotes a specific activity. Agonists often mimic the activity of the body's natural neurotransmitters and other regulatory chemicals or of other drugs. Also refers to a drug that promotes the activity of another drug. Contrast with antagonist.

AIDS dementia complex (ADC)

mental impairment due to HIV infection. Symptoms may include cognitive impairment (eg, difficulty concentrating, memory loss), disorientation, mood and personality changes, speech and vision difficulties, lack of coordination, incontinence, and paralysis. AIDS-related dementia typically affects people in the later stages of HIV disease.

AIDS service organization (ASO)

an organization that provides care, education, and other services to people with HIV/AIDS.

AIDS-defining illness

a condition (eg, Pneumocystis jiroveci pneumonia, toxoplasmosis, Kaposi's sarcoma) that is included in the CDC definition of AIDS. Any of a list of specific conditions used to define late stage HIV disease before the era of effective HIV therapy.

AIDS Malignancy Consortium

an NCI-supported clinical trials group dealing with cancer in HIV disease, now part of the TRADD Scientific Committee of ACTG.

alanine transaminase, ALT, SGPT

see transaminase.

albumin

The main blood protein found in the blood plasma, cell fluids, and intracellular spaces. A reduced level of albumin in the serum of persons with AIDS-related wasting syndrome may be a sign of progressive wasting..

alkaline phosphatase (ALK PHOS)

an enzyme, found in bone, liver, and other sites Doctors sometimes look for alkaline phosphatase to determine the condition of a patient's liver. Low counts are best. A high count suggests hepatitis or a drug toxicity.

allele

a "version" of a specific gene. Each person has 1 allele at each genetic location.

allergy

An immune-modulated sensitivity to some environmental agent, food, or drug. Most allergic reactions are minor (sneezing, runny nose), but some are life-threatening and require prompt medical attention. Allergic reactions are mediated by the release of histamine by mast cells. Allergic symptoms may include runny nose (rhinitis), sneezing, skin rash, asthma, or anaphylactic shock.

allopathy (adjective allopathic)

Science-based medicine, commonly referred to as "Western medicine." A therapeutic system in which illness or disease is defined by identifying a specific cause or "lesion,," ie a virus, genetic mutation, or bone fracture.

Treatment is designed to eliminate or correct for the lesion.

alpha interferon

see interferon

ALLRT (AIDS Longitudinal Linked Randomized Trials), A5221

a long-term follow-up of patients who have been enrolled in randomized trials using a data base of ACTG trial data.

ALT (SGPT), alanine transaminase, aminotransferase

an enzyme produced by the liver that catalyzes the transfer of amino acids. Abnormally high levels in the blood indicate liver disease or damage (eg, hepatitis, drug-related liver toxicity).

alternative therapy

therapy that is not considered standard practice in standard “science based” medical practice (eg, traditional Chinese medicine, homeopathy).

alum

an odorless, colorless substance used as a topical antibiotic, as an adjuvant in some vaccines and sometimes as placebo.

amenorrhea

absence of menstruation or decreased menstrual flow.

AMFAR (American Foundation for AIDS Research)

a non-profit organization that supports HIV/AIDS prevention and research efforts, www.amfar.org.

amino acid

one of 20+ organic acids that are the building blocks of proteins.

aminoglycoside

a family of antibiotic drugs including streptomycin. They are generally given IV, and must be monitored for toxicities, especially of the kidneys and ears.

amphotericin B

an antibiotic drug used to treat disseminated fungal infections (eg, cryptococcal meningitis). The drug can have severe side effects including fever, chills, nausea, kidney toxicity and bone marrow suppression. Toxicity may be reduced by administering the drug in a liposomal (fat bubble) form.

amplicor HIV-1 monitor

see reverse transcriptase polymerase chain reaction test.

amplification assay

a type of test (eg, PCR, branched-chain DNA) that detects small fragments of DNA or RNA and amplifies the fragments (target amplification) or chemical signals they produce (signal amplification): used to detect microorganisms in blood and tissues.

Amsler grid

a diagram of squares used to assess vision. Defects in the central visual field (eg, due to CMV retinitis) may be detected as breaks or unevenness in the lines of the grid.

amylase

an enzyme that converts starch to sugar. High levels in a lab test indicate pancreatitis is a possibility.

anabolic steroid

a synthetic hormone designed to mimic or enhance the growth producing effects of male hormones like testosterone. Not to be confused with “corticosteroid,” hormones with a similar structure, but effects related to inflammation rather than growth.

anabolism

the cellular synthesis of organic molecules; the building of proteins and muscle mass in the body. See also metabolism.

anal intraepithelial neoplasia (AIN)

the abnormal growth of cells of the anus, which may be a precursor of anal cancer. The causative agent is the human papilloma virus.

analgesic
a drug that reduces pain.

anamnestic response
a heightened immunologic response stimulated by a second or subsequent exposure to a specific antigen.

anaphylactic shock (anaphylaxis)
a life-threatening allergic reaction to a foreign antigen mediated by IgE antibodies. Symptoms include swelling, shortness of breath, and a decrease in blood pressure due to capillary dilation.

androgen
a hormone (eg, testosterone, androsterone) that has masculinizing effects, including stimulation of the male reproductive organs and development of secondary sex characteristics. Androgens are produced by the testes and/or the adrenal glands.

anecdotal
refers to evidence based on reports of specific individual cases, rather than controlled, clinical studies.

anemia
a deficiency in oxygen-carrying capacity of blood. Determining lab tests include hemoglobin, red blood cell volume, and red blood cell number.

angiogenesis
the growth and proliferation of blood vessels.

angiostatic
an agent that inhibits the growth of new blood vessels.

anogenital
refers to area that includes the genitals, perineum and anus.

anorexia
loss of appetite, especially as a result of disease.

anoscopy
examination of the anal canal and lower rectum using a short speculum or anoscope.

antagonist
a drug that acts against and blocks an action.

antiarrhythmic
a drug that helps to normalize the rhythm of the heartbeat.

antibiotic
an agent that inhibits the growth of or destroys microorganisms; the term typically refers to an agent that is active against bacteria, and inactive against viruses.

antibody (ab, immunoglobulin, Ig)
an immunoglobulin protein secreted by activated plasma cells, which evolve from B-cells. Antibodies are present throughout the blood and tissues; they are produced in response to stimulation by foreign antigens as part of the body's defense against disease. Specific antibodies bind to

and act upon specific antigens; the antigen/ antibody reaction forms the basis of humoral (TH2) immunity. Neutralizing antibodies destroy or inactivate infectious agents, while enhancing antibodies promote infection. There are 5 classes of immunoglobulins: IgA, IgD, IgE, IgG and IgM Tests to determine if you are HIV positive look for HIV antibodies .

antibody positive

having antibodies (eg, against HIV) in the blood, indicating previous exposure to an organism. Typically the terms seropositive and HIV positive are used to mean antibody positive. Contrast with antigen positive.

antibody-dependent cell-mediated cytotoxicity

an immune response in which antibodies bind to target cells and identify them for attack by natural killer cells and macrophages.

antibody-mediated immunity

see humoral immunity.

anticoagulant

a substance that suppresses blood clotting.

anticonvulsant

an agent that prevents or lessens convulsions or seizures; may be used as an adjuvant analgesic.

antidepressant

an agent that elevates the mood and prevents or alleviates psychological depression. Antidepressant drugs are sometimes used as adjuvant analgesic to relieve neuropathic pain. Heterocyclic and tricyclic classifications refer to antidepressants with specific chemical structures. Other classes of antidepressants include MAO inhibitors and serotonin reuptake inhibitors (eg, Prozac).

antiemetic

an agent that relieves nausea and vomiting.

antifungal

a substance that kills fungus.

antigen

a substance that, when introduced into the body, stimulates production of an antibody; any agent or substance that stimulates an immune response. Antigens are often microorganisms such as bacteria or viruses, or the substances they produce.

antigen positive

having proteins from a microorganism (eg, HIV RNA) in the blood or tissues, as determined by tests such as the PCR assay. Contrast with antibody positive.

antigen-presenting cell (APC)

a cell (eg, macrophage) that processes antigen proteins and displays the short peptide fragments on its surface in conjunction with major histocompatibility (MHC) proteins, enabling recognition by T-cells.

antihistamine

an agent that counteracts the effects of histamine; antihistamines are used to treat allergic reactions and to block stomach acid production.

anti-inflammatory

adj. acting against inflammation

antimicrobial

an agent that destroys or prevents the growth of microorganisms such as bacteria, fungi or parasites.

antimycobacterial

an agent that is active against the bacteria that cause tuberculosis and related diseases mycobacteria (eg, m. avium,). E.g, isoniazid, rifampicin

antineoplastic

an agent that inhibits or prevents the increase of cancer cells and the growth of tumors.

antioxidant

a substance that inhibits oxidation. In your blood stream, free radicals damage cells by oxidizing them. Beta-carotene, vitamin C, and vitamin E are antioxidants.

antiretroviral

a substance that kills or suppresses a retrovirus, such as HIV. All of the anti-HIV drugs --AZT, protease inhibitors, etc. -- are considered antiretroviral drugs.

antiviral

a substance that kills or suppresses a virus.

aphthous ulcer (canker sore)

a small often painful shallow lesion on the mucous membranes lining the mouth, esophagus or rectum. Recurrent aphthous ulcers (RAU) reappear frequently and are refractory to treatment.

apoptosis

programmed cell death. Apoptosis is the body's mechanism for eliminating undesirable or excessive immune system activity, eg, immune cells that attack the body's own tissues. Abnormal apoptosis is often seen in HIV disease.

Aptivus®, tipranavir

protease inhibitor, designed for late-stage AIDS, to be taken with 400mg ritonavir BID.

arrhythmia

loss of normal rhythm, especially irregularities of the heartbeat.

aspartate transaminase (AST, SGOT)

see transaminase.

aspergillosis

A disease caused by a fungus. It can cause lesions of the skin, ear, orbit, nasal sinuses, lungs and sometimes the bones, meninges, heart, kidneys, or spleen. Symptoms include fever, chills, difficulty breathing, and coughing up blood

aspiration

withdrawal of fluid or tissue by suction, typically through a needle (eg, to obtain a sample for analysis).

assay

qualitative (condition) or quantitative (amount) analysis of a substance; a test.

AST (SGOT), aspartate transaminase, transaminase
an enzyme produced by the liver that catalyzes the transfer of amino acids. Abnormally high levels in the blood indicate liver disease or damage (eg, hepatitis, drug-related liver toxicity).

astrocyte
a brain cell that provides support for neurons and manufactures the myelin insulation that surrounds neuronal axons.

asymptomatic
without symptoms (eg, someone who is infected by HIV but has no symptoms).

ataxia
loss or lack of muscle coordination.

atazanavir (Reyataz®), ATZ,
once a day protease inhibitor, does not raise triglycerides or have other lipid effects, generally taken with 100mg ritonavir as booster.

atherosclerosis
"hardening of the arteries" in which cholesterol and other deposits build up on the inner walls of the artery, limiting the flow of blood.

atovaquone (Mepron®, 566c80)
an antimicrobial drug used as a treatment for PCP for individuals who cannot tolerate or fail on TMP-SMX and for pregnant women.

Atripla®
Efavirenz + emtricitabine + tenofovir, a multi-class combination drug, the first one pill once a day regimen in the US.

atrophy (adjective atrophic)
progressive degeneration, wasting or decrease in size, especially the loss of muscle tissue.

attenuate
to weaken or reduce the level of virulence. An attenuated virus has a diminished ability to cause disease, and may be used in vaccines. An attenuated virus is a virus that is still alive but incapable of causing harm.

AUC
area under the curve. The drug concentration in plasma during its dosing cycle (eg, BID or QD). Mathematical technique used to measure quantity of drug and drug clearance in pharmacokinetic studies.

autoantibodies
an antibody thought to act against cells of the organism in which it is formed.

autoimmune
related to or caused by autoantibodies. A disease where the body's own immune system attacks itself.

autoimmune response, autoimmunity
a condition (eg, rheumatoid arthritis, systemic lupus erythematosus) in which an individual's immune system fails to recognize its own biochemical

markers as being "self" and attacks bodily tissues as if they were foreign matter.

autologous

derived from the same individual. An autologous transfusion or transplant is one in which a person's own blood or tissues are removed and reintroduced at a later time.

azithromycin, Zithromax®

a macrolide antibiotic A broad-spectrum antibiotic that used to treat Mycobacterium avium complex (MAC) disease, chlamydiasis and urinary tract infections.

azole drug

a class of drugs used to fight fungal infections. There are 2 subclasses, the imidazoles (eg, clotrimazole, ketoconazole) and the triazoles (eg, fluconazole, itraconazole).

AZT, zidovudine [ZDV], azidothymidine, Retrovir®

a nucleoside (thymidine) analogue that suppresses the replication of HIV by terminating DNA synthesis. AZT is approved for the treatment of HIV infection always in combination with other antiretroviral drugs. AZT crosses the blood-brain barrier. Side effects include nausea, myopathy and bone marrow suppression.

B

bacillus Calmette-Guérin (BCG)

an attenuated strain of Mycobacterium bovis. BCG is used in some countries as a vaccine against tuberculosis. BCG vaccination renders the PPD test unusable as a test for the presence of M. tuberculosis. BCG adenitis is an illness caused by BCG that is present in some infants with HIV and is characterized by inflammation of the lymph nodes.

bacillary angiomatosis (cat scratch disease)

a vascular proliferative disease caused by Bartonella henselae or Bartonella quintana that may result in swollen purplish lesions similar to those of Kaposi's sarcoma. BA is associated with contact with domestic cats.

back-mutation

the reversion of a mutant, often attenuated, strain of a microorganism back to its natural, often more "fit" state.

bacteremia

presence of bacteria in the blood.

bacteria (singular bacterium)

Tiny, one-cell organisms of the class schizomycetes. There is a vast assortment of bacteria, including many parasites. Bacteria are classified by their shape (eg, rod, spirochete), staining properties (Gram positive or Gram negative), and habitat (aerobic, anaerobic). Many types of bacteria are pathogenic in humans.

bacterial vaginosis (BV)

a condition caused by the overgrowth of anaerobic bacteria (eg, Gardnerella vaginalis), resulting in vaginal irritation and discharge.

Bactrim, trimethoprim-sulfamethoxazole, (TMP-SMX)

an antibiotic drug combination. TMP-SMX is the preferred first-line therapy for prophylaxis and treatment of PCP, and may be effective against other OI such as toxoplasmosis. Side effects include fever, nausea, diarrhea, photosensitivity, skin rash and neutropenia. Desensitization to the drug is often possible using slowly increasing dosages. Also known as Bactrim-Septra.

balanitis

inflammation of the glans (head) of the penis.

barbiturate

a class of drugs (eg, phenobarbital) that have sedative properties and depress respiratory rate, blood pressure and nervous system activity.

basal cell

a skin cell located at the lowest level of the epidermis, the cellular covering of the skin.

basal ganglion

a cluster of nerve tissue, primarily composed of neuron cell bodies, deep within the brain.

basal metabolic rate

the body's resting level of energy expenditure. Individuals with a chronic infection often have an elevated basal metabolic rate.

baseline

a line used as a base for measurement. In HIV disease, a baseline is the result of several lab tests (eg, CD4 cell count, HIV viral load) used to monitor the effectiveness of drugs.

base-pairing

the process by which a nucleic acid base matches up with its complementary counterpart during replication of genetic material. Adenine (A) pairs with thymine (T) or uracil (U); cytosine (C) pairs with guanine (G).

basophil

a type of white blood cell (granulocyte) that releases chemicals in allergic reactions; basophils that leave the bloodstream become mast cells in the tissues.

B-cell (B-lymphocyte)

an immune system white blood cell that carries out the humoral (TH2) immune response. B-cells are produced in the bone marrow and mature into plasma cells that produce antibodies. B-cells are influenced by various cytokines and interactions with T-cells and other immune system components. Contrast with T-cell.

β -2 microglobulin (β 2M)

a cell surface protein that is released into the bloodstream when cells die. Elevated blood levels of β 2M are associated with immune activation and

HIV replication. Levels below 3 mg/L are considered normal; levels above 5 mg/L indicate a high risk of HIV disease progression.

BIA

see bioelectric impedance analysis

Biaxin

brand name; see clarithromycin.

bilirubin

a reddish-yellow compound that occurs naturally in bile, blood, and urine.. Too much bilirubin indicates there may be a liver problem.

bioavailability

the degree a drug or nutrient is available to the body. Bioavailability is influenced by how much the substance is absorbed and circulated.

bioelectrical impedance analysis (BIA)

a method of measuring lean body mass (muscle) and estimating cell mass. BIA measures electrical resistance and capacitative reactance, and uses these values to calculate phase angle.

biological response modifier (BRM)

an immunomodulator; an agent (eg, cytokine, thymic hormone) that enhances or restores immune function.

biopsy

A tissue sample removed from the body, usually for medical diagnosis

blastogenesis

the production and maturation of new cells, ie lymphocytes in response to challenge by an infectious agent (eg, bacterium, virus).

blastomycosis

an infectious disease caused by a fungus, usually in the lungs. It can spread to the skin, bone, or other tissues.

blinding

a method of conducting clinical trials so that some or all of the participants and investigators do not know whether subjects are taking active drug or placebo. Blinding is done to reduce bias in drug trials. (See also double-blind.)

blood chemistry panel

a set of tests (eg, SMA 12, SMA 14, SMA 20) that evaluates the level of chemical components (eg, glucose, albumin, enzymes, electrolytes) in the blood.

blood volume

the amount of blood circulating throughout the body in the vascular system. Normal adult blood volume is about 5 liters. Blood volume must be maintained to ensure the proper functioning of the heart, kidneys, and other organs.

blood-brain barrier

a membrane separating brain tissue from circulating blood. In HIV treatment, it refers to the difficulty of getting drugs from the blood stream to penetrate the central nervous system. HIV is active in brain issue. The

drug AZT (zidovudine, Retrovir) crosses the blood-brain barrier better than any other anti-HIV drug currently approved in the U.S.

body mass index (BMI)
a measure of mass that is calculated as weight divided by height squared.

bone marrow transfer (BMT)
a graft of bone marrow from one individual to another to reconstitute the recipient's damaged immune system.

bowenoid papulosis
a dysplastic disorder involving tissue changes in the anogenital region, including reddish raised or flat lesions. Bowenoid papulosis is associated with human papillomavirus, especially type 16; if left untreated it may progress to squamous cell carcinoma. See Anal intraepithelial neoplasia

brain stem
the lower part of the brain where the brain connects to the spinal cord. The brain stem is responsible for many motor and sensory functions, especially automatic functions such as maintenance of posture and respiration.

branched-chain DNA assay (bDNA, quantiplex HIV RNA)
a test that measures the amount of virus (viral load) in plasma or tissue using a chemical signal, made visible as light using special stains, that is produced by viral RNA.

breakthrough
refers to a condition that has developed despite measures to prevent it (eg, PCP that occurs while taking a prophylactic drug).

broad-spectrum antibiotic
an antibiotic drug that is active against a range of different bacteria.

bronchial lavage (broncho-alveolar lavage)
a procedure in which the bronchial tubes are rinsed; the resulting fluid can then be analyzed (eg, for disease-causing organisms).

bronchitis
acute or chronic inflammation of the branched part of the trachea, the tubes going into the lungs. In some cases, this is considered an AIDS-defining condition.

bronchodilation
opening or expanding the bronchial tubes. Bronchodilating drugs can reduce coughing, wheezing, and shortness of breath, and may help prevent coughing if given prior to therapy for PCP with aerosolized pentamidine.

bronchoscopy
procedure for examining the respiratory tract using a thin, flexible tube through the mouth and into the lungs.

bronchus (plural bronchi; adjective bronchial)
the airway tubes that lead from the trachea or windpipe to the alveolar sacs in the lungs. Bronchi are the larger tubes; bronchioles are the smallest tubule branches.

Burkitt's lymphoma

a cancer of the lymph system that is associated with the Epstein-Barr virus.

C

canarypox

a poxvirus that typically infects canaries and is used in human vaccine research.

candida

a genus of yeast-like fungi. Some species of *Candida* are part of the normal flora of the mouth, intestines, and vagina. Several species (*C. albicans*, *C. tropicalis*, *C. krusei*) may cause infection in humans, especially immunocompromised persons.

cannabis, marijuana

Cannabis sativa, a plant that contains the psychoactive ingredient delta-9 tetrahydrocannabinol (THC). Cannabis ingestion typically produces feelings of euphoria and/or drowsiness. Cannabis is used medically to reduce nausea due to chemotherapy and restore appetite in persons with wasting syndrome.

capillaries

tiny blood vessels that form the most distal part of the circulatory system. Arteries branch into ever smaller vessels, finally ending in the capillaries, which connect with the smallest branches of the veins. Capillaries deliver oxygen and nutrients to and remove waste products from the body's cells.

cardiomyopathy

a degeneration of the heart muscle, thought to be caused by HIV or by some drugs.

cardiovascular

refers to the circulatory system (the heart and blood vessels).

CD4 cells (T-helper cells)

A subset of T cells that carry the CD4 marker and are essential for turning on antibody production, activating cytotoxic T cells, and initiating other immune responses. The number of CD4 cells in a blood sample is used to measure the health of the immune system in people with HIV.

CD4 count, T-cell count

The number of helper T-lymphocytes in a person's blood, usually expressed as the number of cells per cubic millimeter.

CD4 receptor

a protein embedded in the surface of some T-cells and certain other cells (eg, macrophages, Langerhans cells). HIV invades cells by attaching to their CD4 receptor.

The receptor recognizes antigens bound to major histocompatibility (MHC) molecules and triggers various cellular functions important to immune responses.

CD4/CD8 ratio

the ratio of CD4 cells to CD8 cells. In healthy persons the CD4/CD8 ratio is about 2.

CD8 (T-8)

protein embedded in the surface of killer and suppressor T-lymphocytes. Blood tests that look for suppressor T-lymphocytes are actually looking for this protein.

cell antiviral factor (CAF)

a factor produced by CD8 cells that is thought to block viral infection during the HIV latency period and in long-term non-progressors. Its identity is not known; possibilities include IL-16 and the chemokines RANTES, MIP-1- α , and MIP-1- β .

cell-mediated immunity

part of the immune system responsible for direct attack foreign material without using proteins (antibodies), consists mainly of T-lymphocytes, killer cells, and macrophages.

cellulitis

an infection of the skin, usually caused by bacteria.

central nervous system (CNS)

A the brain and spinal cord, those portions of the nervous system within the blood/brain barrier. .

cerebrospinal fluid (CSF)

a clear, nutrient-rich fluid that circulates around and through the brain and around the spinal cord.

cerebrum

the upper frontal part of the brain responsible for thought and for higher motor functions and sensory processing.

cervical cancer

malignant growth in the narrow lower or outer end of the uterus. It is caused by the Human Papilloma virus; an AIDS-defining illness.

cervical dysplasia

abnormal growth of the lining cells of the cervix, the lower portion of the uterus.

cervical intraepithelial neoplasia (CIN)

abnormal growth of cells of the uterine cervix, suggesting an early or "pre-malignant" stage of cervical cancer. Human papillomavirus (HPV) and HIV infection are associated with an increased risk of CIN. There are 3 grades of severity: CIN I, CIN II, and CIN III. A newer classification system divides these 3 classes into 2 categories: low-grade and high-grade squamous intraepithelial lesion (SIL). See also cervical dysplasia, squamous intraepithelial lesion.

cervicitis

inflammation of the uterine cervix.

cervix (adjective: cervical)

the lower part of the uterus which is visible protruding into the vagina.

chemokine

a chemical produced by cells that stimulates the activity of other cells. Certain chemokines are associated with autoimmune disorders, and some (eg, MIP-1- α , MIP-1- β , RANTES) have been shown to affect the activity of HIV.

chickenpox

an acute contagious disease caused by the varicella-zoster virus (VZV) and characterized by low-grade fever and a rash of itchy fluid-filled vesicles. Chickenpox typically occurs in children; VZV may reactivate later in life to cause shingles, a painful blistering rash.

chlamydia

an infection, usually sexually transmitted, with the bacteria *Chlamydia trachomatis*. Chlamydia is the most common sexually transmitted disease in the U.S. It may be asymptomatic or include symptoms such as genital inflammation and discharge, pelvic pain, and fever. Untreated, it may lead to pelvic inflammatory disease (PID) and infertility. Chlamydia may also cause eye disease (trachoma) and pneumonia.

cholesterol

a substance in animal tissue that is an essential component of cell membranes and nerve fiber insulation. Cholesterol is important for the metabolism and transport of fatty acids and in the production of steroid hormones and vitamin D. Cholesterol is manufactured by the liver, and is also present in certain foods (eg, eggs, shellfish).

CHOP

a chemotherapeutic regimen for cancer treatment that combines cyclophosphamide, hydroxydaunomycin (doxorubicin, or Adriamycin), vincristine (Oncovin), and prednisone.

chromosome

a structure of compact intertwined molecules of DNA found in the nucleus of cells. Chromosomes contain the cell's genetic information. Humans normally have 46 chromosomes.

CI

see confidence level.

cidofovir, Vistide®

a nucleoside analogue drug used to treat refractory cytomegalovirus (CMV) infection and acyclovir-resistant herpes simplex virus.

cimetidine, Tagamet®

a drug used to treat peptic (stomach) ulcers by blocking the secretion of stomach acid.

ciprofloxacin (Cipro)

an oral antibiotic used to treat common bacterial infections and used, in combination with other drugs, to treat MAC disease in people with AIDS. Side effects may include gastrointestinal distress, seizures and rash.

cirrhosis

a condition in which the liver becomes scarred and fibrous, thus reducing its ability to function. Causes include infection (eg, hepatitis) and excessive alcohol consumption.

CCR5

a protein found on CD4 cells that serves as a receptor site for chemokines like HIV to enter cells. People who lack a functional copy of CCR5 are less susceptible to HIV infection.

clade

see subtype.

clarithromycin, Biaxin®

a macrolide antibiotic used to treat bacterial infections. Clarithromycin is used as treatment and prophylaxis for MAC. Side effects include nausea, taste changes, and abdominal pain.

clindamycin, Cleocin®

an antibiotic used as treatment and prophylaxis for toxoplasmosis and treatment of PCP in combination with other drugs.

clofazimine

a drug used to treat leprosy and MAC disease.

clone

a group of genetically identical cells or organisms derived from a single common ancestor. Also refers to the process of creating identical cells or organisms. Monoclonal refers to the products (eg, antibodies) of a single clone.

clotrimazole, Mycelex®

an antifungal drug approved as a treatment for candidiasis.

clotting factor

one of many proteins involved in the normal clotting of blood.

CMV, cytomegalovirus

a herpes virus. In immunocompromised individuals (usually at CD4 counts below 50 cells/mm³), CMV may cause serious illness including retinitis (inflammation of the retina), pneumonia, colitis (inflammation of the large bowel), and encephalitis (inflammation of the brain); in pregnant woman may lead to congenital abnormalities in the newborn. CMV may be treated with ganciclovir, foscarnet, or cidofovir.

coccidioidomycosis

a fungal disease characterized by fever and localized pulmonary (lung) symptoms, an AIDS-defining condition; lesions in the upper respiratory tract and lungs, and may sometimes disseminate to visceral organs, bones, skin, and other tissues. Symptoms include cough, fatigue, fever, and weight loss. Also called San Joaquin fever.

cognitive impairment

problems with memory and thinking. Can be caused by HIV. Sometimes used to describe a less severe form of dementia.

cohort

a group of individuals in a study who share a demographic, clinical, or other statistical characteristic (eg, age, study site).

colitis

inflammation of the mucous membrane of the colon, which is part of the intestines.

colon

the large intestine, extending from the cecum (where it meets the small intestine) to the rectum.

colonoscopy

examination of the large intestine using a narrow, flexible lighted tube.

colony-stimulating factor (CSF)

a cytokine responsible for regulating the production of white blood cells. Types include granulocyte colony-stimulating factor (G-CSF) and granulocyte macrophage colony-stimulating factor (GM-CSF), which are used to relieve neutropenia.

colposcopy (biomicroscopy)

examination of the uterine cervix with a low-powered, lighted microscope (colposcope) to identify abnormal cell growth and, if necessary, remove a tissue sample for biopsy.

combination therapy

using 2 or more drugs at the same time. Studies have shown that taking multiple anti-HIV drugs is more potent than taking a single drug.

Combivir®

brand name for a single pill containing AZT and 3TC.

community advisory board (CAB)

a group of community members (eg, people with HIV/AIDS, care providers, advocates) who provide recommendations regarding clinical research, including at the local/site level.

community-based organization (CBO)

a local organization within a community that provides various services to people with HIV/AIDS.

Community Scientific Subcommittee (CSS)

a group of community members representing diverse populations affected by HIV/AIDS that advises the ACTG on issues related to clinical research, especially at the network level.

compartment

a separate structural portion (eg, of the body or of a cell). The term is also used in pharmacology to denote an area of the body where a drug is metabolized, but which may not have a discrete physical boundary.

compassionate use

The use of an experimental drug that is made available (usually free) to seriously ill patients before the drug is approved for general use. Most drugs in HIV get this classification.

complementary therapy

an additional treatment or therapy, usually unapproved, used in combination with an existing treatment regimen.

complete blood count (CBC)

a measurement of the different types of cells found in the blood, including red blood cell count (including hematocrit and hemoglobin), counts of various types of white blood cells such as granulocytes and T-cells, and platelet count.

computed tomography scan (CT scan)

a method of visualizing soft tissues of the body in two dimensional cross sections, using X-rays. Also known as computed axial tomography or CAT scan.

concomitant

accompanied by or occurring at the same time. Concomitant therapies are those that are used together.

concurrent

occurring at (or, for drugs, taken at) the same time.

condylomata acuminata

genital and/or anal warts caused by infection with a strain of the human papillomavirus (HPV). Condylomata acuminata is typically sexually transmitted and may be particularly aggressive in people with HIV. See anal intraepithelial neoplasia

cone biopsy (conization)

removal of a cone-shaped wedge from the bottom of the uterine cervix to remove lesions and to provide a tissue sample for biopsy.

confidence level (confidence interval)

a statistical measure of the likelihood that an experimental result is "real" and not the result of chance alone. Confidence improves as larger numbers of participants are included in a trial.

congenital

refers to a disease or condition that is present from the time of birth.

contraindication

any circumstance or condition that makes a method of treatment inadvisable in a particular case.

control arm

a comparison group in a scientific experiment (eg, a clinical drug trial) that is used to verify experimental results. A control group is not subject to the study drug so that those receiving the study drug and those not receiving it may be compared. Contrast with treatment arm.

controlled trial

a clinical trial in which the group receiving an experimental therapy is compared to a control group that is not given the drug being studied. In a placebo-controlled trial the control group is given an inactive substance (placebo); in an active control trial the control group is given the best existing proven therapy. See also placebo-controlled trial.

convergent therapy

a regimen consisting of several drugs aimed at the same structural or functional target (eg, a combination of three reverse transcriptase inhibitors).

cord blood

blood taken from the umbilical cord after birth. Cord blood is rich in stem cells.

core

the internal portion of the HIV viral particle. The core proteins, encoded by the gag gene, include the glycoproteins p24 and p17.

co-receptor

a second receptor that enables an organism to infect a cell. In addition to the CD4 receptor on cell surfaces, HIV requires the co-receptor fusin to infect T-cells and a co-receptor, either CCR5 or CXCR4, to infect the CD4 cell.

cortex (adjective cortical)

the outer part of an organ (eg, cerebral cortex, adrenal cortex).

corticosteroid

one of a group of steroid hormones (eg, prednisone, corticosterone, cortisone, aldosterone) produced by the cortex of the adrenal gland or manufactured synthetically. Corticosteroids are used in the treatment of a variety of conditions; they have anti-inflammatory and immunosuppressive properties. When medical professionals refer to “steroids” they are usually talking about these agents, and not anabolic steroids.

creatinine

a protein, a normal metabolic waste product found in muscles and blood. The amount of creatinine in the blood or urine tells doctors how well your kidneys are working.

creatinine kinase (CK)

an enzyme essential for muscle contraction. Blood levels of CK are typically elevated in muscle diseases (myopathies), and CK levels can be used to monitor toxicity to the muscles.

Crixivan®, indinavir

a protease inhibitor approved for the treatment of HIV disease. Due to its three times a day dosing and the necessity of water and food requirements, it is not used often anymore. With ritonavir as booster, it can be taken twice a day and with no food restrictions, but water remains very important (min. 2 liters a day).

cross-immunity

a state in which immunity to one organism serves to protect an individual against a different but related organism (eg, immunity against cowpox provides immunity against smallpox).

crossover

a trial design in which the therapy given to different arms is switched during the course of the trial (eg, the arm receiving drug is switched to placebo, and vice-versa).

cross-reactivity

a process by which an antibody responds to an antigen other than that which originally stimulated its production.

cross-resistance

when the development of resistance to one agent (eg, a drug) also confers resistance to another agent (eg, a drug generally of the same class).

cross-tolerance

a situation in which tolerance to one drug carries over to another related drug, so that the similar drug has reduced effects.

cryptococcosis

an infection caused by a yeast-like fungus, typically *Cryptococcus neoformans*, found in soil and bird feces. A common manifestation is cryptococcal meningitis.

cryptosporidiosis

an infection whose main symptom is prolonged diarrhea which leads to weight loss. All treatments for this illness are still experimental.

CSF

see cerebrospinal fluid, colony-stimulating factor.

CT scan

see computed tomography scan.

CTL

cytotoxic T lymphocyte. A cell that can kill foreign cells that were marked for destruction by other immune system cells (the immune system's hit squad).

cutaneous

pertaining to the skin.

cyanosis

a dark bluish coloration of the skin and mucous membranes due to low oxygen in the blood.

cyclooxygenase

an enzyme involved in oxygen metabolism. Cyclooxygenase is part of the pathway that mediates bodily response to infection and injury (eg, inflammation and pain) via substances such as histamine and prostaglandins.

cyclospora

an intestinal parasite that can cause severe diarrhea in people with AIDS. A recent outbreak was associated with contaminated North American strawberries.

cyclosporin A

a drug that suppresses the immune system. The drug is commonly used in organ transplant recipients to prevent tissue or organ rejection. Also cyclosporine.

cystitis

an inflammation of the urinary bladder.

cyto-

prefix, cell.

cytochrome p450 system

a process that breaks down toxins, drugs and other foreign substances in the liver, by means of the CP450 enzymes into less active compounds (if all goes well).

cytokine

protein produced by some white blood cells (macrophages, monocytes, lymphocytes) used as messengers. Cytokines produced in the lymph system are also called lymphokines.

cytology

the study of the structure, function and pathology of cells.

cytosine (C)

one of the pyrimidine nucleic acid bases that make up nucleotides, the building blocks of DNA and RNA. The antiviral drug ddl is a nucleoside analogue associated with cytosine.

cytotoxic T-lymphocyte (CTL, T-killer cell)

a type of white blood cell that bears the CD8 surface marker and targets and kills cells infected with viruses, bacteria, parasites, and other microorganisms. The action of CTL is coordinated by CD4 cells via the production of cytokines.

D

d4T (stavudine, Zerit)

a nucleoside analog approved for the treatment of HIV disease. Side effects include nausea, peripheral neuropathy and liver toxicity. It is recommended at a new lower dose of 30mg a day, and is no longer recommended by DHHS due to high toxicities.

DAPD, diaminopurine dioxolane, amdoxivir

an investigational antiviral purine nucleoside analogue under study for treatment of HIV.

dapsone

an antibiotic drug used in the treatment and prophylaxis of PCP. Side effects may include nausea, dizziness, skin rash, photosensitivity, and anemia.

darunavir (Prezista©, TMC-114)

Protease inhibitor boosted by ritonavir quite powerful even in many cases of high level resistance. First approved BID for experienced patients, now also approved QD for naïve patients. Being studied as monotherapy.

ddC (zalcitabine, dideoxycytidine, Hivid®)

a nucleoside analogue drug that inhibited HIV replication. It is not manufactured anymore, because of low activity and high side effects.

ddl (didanosine, dideoxyinosine, Videx®)

a nucleoside analogue that inhibits HIV replication, approved for treatment in combination with at least two other ARVs. Adverse side effects include diarrhea, pancreatitis, and peripheral neuropathy. Dosage is weight-based. Not recommended for use by DHHS at this writing.

deferred therapy

therapy given later in the course of disease. In a clinical trial, one arm may be given deferred treatment and compared to an arm that received treatment from the outset.

degenerative

relating to a progressive deterioration of a tissue or organ leading to structural or functional impairment.

dehydration

loss or lack of water in the body. Dehydration may result from prolonged vomiting, evaporation, or diarrhea, and may interfere with or disrupt many bodily processes.

delayed-type hypersensitivity (DTH, type IV sensitivity)

a cell-mediated immune response that peaks 24-72 hours after restimulation with an antigen to which the body has previously been exposed. In an antigen skin test, a local DTH reaction characterized by redness and hardness and swelling may be seen.

dementia

deterioration of intellectual faculties, often accompanied by emotional disturbance. HIV is active in the brain (central nervous system) and can cause dementia, even in those with high CD4 counts and low viral loads. Treatment usually involves an anti-HIV drug such as AZT that is able to cross the blood-brain barrier. See also AIDS dementia complex (ADC).

demyelination

destruction or loss of the myelin (a fatty substance) sheath that surrounds and insulates the axons of nerve cells and is necessary for the proper conduction of neural impulses.

dendritic cell

a type of immune system cell with many branches. Dendritic cells are found in the skin and mucosal membranes. They are typically the first to arrive at sites of injury or infection. Dendritic cells carry the CD4 surface marker, and may be among the first cells to be infected by HIV.

Department of Health and Human Services (DHHS)

the U.S. federal government division that includes the Public Health Service.

Depo-Provera

A form of progesterone injected intramuscularly for contraception.

dermal

relating to the skin.

dermatitis

inflammation of the skin.

desensitization

the reduction of sensitivity or allergic reaction to an antigen or a drug, typically achieved by administering a small amount and gradually increasing the dose.

dexamethasone

a corticosteroid with anti-inflammatory properties.

dexa scan

Dual energy x-ray absorptiometry, a technique for comparing the density of different types of body tissues. It can be used to evaluate the changes in bone seen with osteoporosis, or to look for loss of fat tissues with lipodystrophy/lipoatrophy.

DHEA, dehydroepiandrosterone
a weak androgenic steroid produced by the adrenal cortex. DHEA levels are often decreased in people with HIV disease.

diabetes
a disease characterized by excessive urination. Diabetes mellitus is caused by insufficient insulin production or lack of responsiveness to insulin, resulting in hyperglycemia (high blood glucose levels). There are 2 primary types of diabetes mellitus, type I (insulin-dependent or juvenile-onset), which may be caused by an autoimmune response, and type II (non-insulin-dependent or adult-onset). Diabetes insipidus is typically due to hormonal dysregulation.

dialysis
a procedure for cleansing the blood using membranes to filter out waste elements. Kidney dialysis is used to substitute for the function of damaged or absent kidneys.

diaphragm
a flexible sheet. The diaphragm in the chest is a sheet of muscle that controls breathing. Also refers to a flexible latex disk placed over the uterine cervix as a contraceptive device to form a barrier to sperm.

diarrhea
frequent, loose bowel movements. Diarrhea may be caused by a variety of factors including bacteria (eg, Mycobacterium avium, Salmonella), viruses (eg, CMV), parasites (eg, Cryptosporidium parvum, Giardia), and drug use. Persistent diarrhea is common in persons with HIV disease and may lead to wasting due to inadequate nutrient absorption.

directly observed therapy (DOT)
a method of medication administration in which a health care provider or other observer watches the patient take each drug dose. DOT is commonly used for tuberculosis treatment.

disseminate
to spread. A disseminated infection is one that is distributed throughout the body, possibly causing symptoms at multiple sites.

distal
farthest from the center or from a central point of reference.

distal symmetrical polyneuropathy (DSPN)
a type of peripheral neuropathy in people with HIV characterized by pain, burning, or tingling sensations, weakness and/or numbness, especially in the hands and feet.

diuretic
an agent that increases the amount of urine excreted.

DNA, deoxyribonucleic acid

a molecule found in the nucleus of cells as a twisted double-stranded chain that encodes genetic information. The particular sequence of 4 chemical building blocks (nucleotides) -- adenine, cytosine, guanine and thymine -- that make up a DNA chain determines the unique genetic code of an individual. See also RNA.

dose escalation

the gradual increase of drug dosages to determine the amount that delivers the best balance of high efficacy and low side effects. Dose-escalation trials monitor the effects of increasing dosages of a drug, looking for the largest quantity of the drug that can be tolerated without an adverse reaction.

dose-ranging trial

a clinical trial involving groups of volunteers given different quantities of a drug (or the same quantity but at different intervals). Results are compared to find which quantities and intervals give the best results with the fewest adverse reactions.

dose-response relationship

a phenomenon by which increased doses of a drug lead to increased effects, such that the response to a drug is directly related to the dose administered.

double-blind trial

a clinical trial involving volunteers who take either an experimental drug or a control substance. In a double-blind trial, a lab prepares the experimental and control substances and labels them so that neither the researchers nor patients know who is receiving the experimental drug. Only after the trial is finished do the researchers and patients learn which patients were taking the experimental drug. In HIV-related trials, the placebo is always replaced with an approved anti-HIV Standard of Care. (also see clinical trial, and open label trial.)

downregulation

reduction of the rate at which a process occurs, a substance is released, etc.

doxorubicin, Adriamycin®

an anti-cancer drug used to treat leukemia, lymphoma, Kaposi' sarcoma and other malignancies. Side effects include mouth sores and bone marrow suppression.

DOX-SL, Doxil®

a formulation of doxorubicin encapsulated in liposomes (fat bubbles).

dronabinol, Marinol®

a synthetic version of THC, the active agent in marijuana. Dronabinol is used to reduce nausea and vomiting caused by chemotherapy and as an appetite stimulant in people with wasting syndrome. Side effects may include drowsiness, confusion, and coordination difficulties.

droplet nuclei

airborne particles that transmit infection (eg, tuberculosis).

drug interaction

a change in the way one drug acts when it is taken with some other drug or substance.

DSMB, Data Safety and Monitoring Board

a group of experts that evaluates clinical trials for safety and ethics, examines interim data as a trial progresses, and determines whether the trial should be stopped or allowed to continue.

duodenum (adjective: duodenal)

the first part of the small intestine where it meets the stomach.

dys-

prefix, abnormal; often used to mean difficult or painful.

dysmenorrhea

difficult or painful menstruation (eg, cramps).

dysplasia

abnormal tissue or cell growth, which may develop into cancer.

dyspnea

difficult, labored breathing; shortness of breath.

dystrophy

progressive tissue changes. Several dystrophic diseases (eg, muscular dystrophy) are characterized by muscle wasting and dysfunction.

E

eczema

an acute or chronic inflammatory condition of the skin.

edema

swelling caused by an abnormal accumulation of fluid in body tissues.

efavirenz, EFV, Sustiva®

a non-nucleoside reverse transcriptase inhibitor approved to treat HIV disease.

efficacy

effectiveness; the ability to achieve a desired effect.

electrocardiography (EKG)

a method of recording the electrical activity of the heart.

electroencephalography (EEG)

a method of recording brain activity using an electroencephalograph, a device that records electrical current.

electrolyte

an electrically charged element or compound (eg, sodium, potassium) found in body fluids, tissues, and cells. An imbalance of electrolytes can result from prolonged vomiting or diarrhea, and may lead to the disruption of many bodily processes.

ELISA, enzyme-linked immunosorbent assay

a laboratory test used to detect the presence of antibodies in the serum. ELISA is used for first-line screening for HIV antibodies; a positive result

indicates that antibodies have been detected. The test is sensitive but not specific, and a positive ELISA is typically confirmed using a Western blot assay.

encephalitis

inflammation of the brain.

encephalopathy

a disease of the brain, considered an AIDS-defining condition.

endemic

the continuous presence of a disease in a geographic location, community, or population.

endo-

prefix, internal; inside or originating from within the body or an organ.

endocarditis

inflammation of the inner membranes of the heart.

endocrine gland/endocrine system

a ductless gland that regulates body functions via hormones secreted into the bloodstream. The endocrine system includes the hypothalamus, pituitary gland, thyroid, adrenal glands, and gonads (ovaries and testes). Contrast with exocrine gland.

endometriosis

the presence of endometrial tissue outside the uterus, often in the form of cysts. The tissue reacts to hormones. Symptoms (primarily pain) occur in monthly cycles.

endorphin

a group of endogenous (produced by the body) hormones (eg, beta endorphin, met-enkephalin) that are chemically similar to opiate drugs. Endorphins are involved in coping with acute stress and modulating the perception of pain; they may also have a role in mobilizing the immune system.

endoscopy (adjective endoscopic)

a method of examining the interior of a body cavity or hollow organ (eg, esophagus, stomach) using an endoscope, a narrow, flexible fiber optic instrument that conducts light.

endothelium (adjective endothelial)

a layer of cells that lines blood and lymph vessels, the heart and various body cavities.

endotoxin

see lipopolysaccharide.

endpoint

a direct marker of disease progression, eg, disease symptoms or death. The effectiveness of drug therapies is often determined by observing the clinical endpoints that develop over time in patients undergoing experimental treatment. Contrast with surrogate marker.

enhancing antibody

an antibody that enhances or promotes -- rather than inhibits -- disease progression. Contrast with neutralizing antibody.

enteral

within or by way of the intestines or the gastrointestinal tract.

enteric

relating to the intestines (eg, an enteric parasite).

enteritis

inflammation of the intestines, especially the small intestine.

env

the gene of HIV that encodes the proteins of the viral envelope; also refers to the proteins produced by the gene.

envelope

the outer covering of a virus. The HIV envelope contains spikes and is composed of 2 protein subunits -- gp120 and gp41 – encoded by the env gene. The glycoprotein gp120 attaches itself to the CD4 surface protein, allowing HIV to infect certain cells.

enzyme

any of numerous proteins produced by organisms that work as a biochemical catalyst (speed a chemical reaction).

eosinophilic folliculitis

a rash of itchy, red, pus-filled bumps on the face, arms, chest and back. The cause is unknown, but has been associated with Demodex mites and Pityrosporum yeast; the presence of eosinophils in the hair follicles indicates that the condition may involve an allergic reaction.

epidemiology

the study of the frequency, distribution, and behavior of a disease within a population.

epidermis

the outer layers of the skin.

epidural

relating to or administered via the dura mater, the outer membrane of the brain and spinal cord.

epithelium

a thin layer of cells that covers the internal and external surfaces of the body, including body cavities, ducts and vessels.

epitope

a unique shape or a marker on the surface of an antigen that triggers an antibody response.

Epivir®

lamivudine (3TC).

Epstein-Barr virus (EBV, human herpesvirus-4)

EBV infection is common and usually asymptomatic in children, and may cause infectious mononucleosis ("kissing disease") in young adults. EBV lies dormant in the lymph nodes. It is associated with oral hairy leukoplakia, lymphoid interstitial pneumonitis, and some types of cancer in people with suppressed immune systems.

Epzicom®

A combination medication that includes abacavir and lamivudine in a single dose pill

eradication
the complete elimination of an organism (eg, HIV) from the body, including the blood and reservoir tissue sites.

erythema (adjective: erythematous)
red, especially an inflammatory redness of the skin.

erythrocyte sedimentation rate, ESR, sed rate
a blood test that measures the speed at which red blood cells settle in a test tube. The test is used as a simple and cheap way to detect inflammation.

erythromycin
a common antibiotic used to treat bacterial infections of the skin, respiratory tract, and other organs.

Escherichia coli
a typically harmless bacteria that is found in the human digestive tract and is present in fecal material. E. coli O157: H7 is a pathogenic strain transmitted commonly by undercooked meats, raw milk, and person-to-person contact.

esophageal candidiasis
a fungal infection of the esophagus that may cause painful swallowing leading to weight loss, an AIDS-defining opportunistic infection.

esophagitis
inflammation of the esophagus. In some cases, an AIDS-defining condition.

esophagus
a muscular tube, about 9 inches long, that passes from the mouth to the stomach; the portion of the digestive canal between the mouth and the stomach.

estradiol
a potent natural form of estrogen produced by the ovaries, placenta, and testes.

estrogen
a female sex hormone; a natural or synthetic substance (eg, estradiol, Premarin®) that stimulates the development of female secondary sex characteristics and regulates the reproductive cycle in women. Estrogens are known to affect the immune system.

ethambutol, Myambutol®
an oral drug used in combination with other agents to treat tuberculosis and MAC disease. Side effects may include nausea, headache, visual disturbances, and joint pain.

exanthem, roseola
a rash occurring as a symptom of an acute viral disease. Exanthem subitum or roseola infantum is a common viral disease of infants and children caused by infection with human herpesvirus type 6 and characterized by sudden onset of rash accompanied by fever.

exocrine gland

a gland with ducts (eg, sebaceous glands) that deposits secretions directly to a site of action rather than into the bloodstream. Contrast with endocrine gland.

expanded access

a program that makes experimental drugs available on a wide basis to patients who don't qualify for a clinical trial. In most cases, a drug with an expanded access program is in the final stages of the approval process.

This program was started in 1987 by the U.S. FDA.

experimental drug

an unapproved drug that is currently undergoing clinical trials to determine safety and efficacy.

E

facial wasting

loss of fat tissues from the cheeks, temples, and subcutaneous layers of the skin seen in lipoatrophy/lipodystrophy.

factor VIII

a protein in the blood that promotes clotting. Some hemophiliacs lack factor VIII and use a replacement derived from multiple blood/plasma donors; many hemophiliacs were infected with HIV prior to widespread antibody testing of donated blood.

false-negative

a negative test result for a person who does in fact have the disease or condition being tested for.

false-positive

a positive test result (eg, from an HIV antibody test) for a person who does not in fact have the disease or condition being tested for.

famciclovir, Famvir®

an antiherpes drug FDA approved for the treatment of varicella-zoster virus infection.

fibroblast

a cell that produces the collagen fibers that make up connective tissue.

first-line treatment

the preferred standard therapy for a particular condition.

Flagyl®, metronidazole

an anti-fungal medication

floater

a moving spot that appears in the field of vision. Floaters may be an early sign of an eye disorder such as CMV retinitis.

flora

the plant and/or bacteria species that inhabit a particular environment, eg, intestinal flora.

fluconazole, Diflucan®

an antifungal drug used to treat fungal infections including cryptococcal meningitis and esophageal candidiasis. Side effects may include nausea, rash, abdominal pain, and headache.

flucytosine, 5-FC, Ancobon®

an antifungal drug used with amphotericin B to treat cryptococcal meningitis.

folate

a vitamin necessary for red blood cell production and proper neurological function. Levels may be reduced in individuals with severe or persistent infection or those taking certain drugs.

folic acid

a B-complex vitamin important for red blood cell production. Folate is a salt or ester of folic acid. Deficiency can cause loss of taste and anemia. Folinic acid is an active form of folic acid.

follicle

a small sac or pore. Hair follicles are depressions in the skin from which hair shafts grow; ovarian follicles are the site of ovum (egg) production.

follicle-stimulating hormone (FSH)

a hormone produced by the pituitary gland that stimulates the ovarian follicles to mature and produce ova (eggs) in women and induces sperm production in men.

follicular dendritic cell

a specialized cell in lymph nodes that traps and concentrates foreign antigens for recognition by lymphocytes.

folliculitis

an inflammation of the hair follicles which may lead to deeper abscesses. Folliculitis is often caused by bacteria (eg, Staphylococcus aureus). Types include eosinophilic folliculitis and idiopathic folliculitis.

Food and Drug Administration (FDA)

the US federal agency responsible for regulating the development, use, and safety of drugs, medical devices, food, cosmetics, and related products.

Fosamprenavir (Lexiva®, GW-433908)

pro-drug for Amprenavir, with a long half-life, allowing once a day dosing, always with ritonavir boosting

foscarnet, Foscavir®

an antiviral drug used to treat cytomegalovirus (CMV) disease and acyclovir-resistant herpes simplex virus and varicella-zoster virus infection. Adverse side effects include nausea, kidney toxicity, and skin ulcers.

FTC, emtricitabine, 5-fluorothiacytidine, Coviracil®

a nucleoside reverse transcriptase inhibitor to treat HIV. A component of Truvada®. Effective against hepatitis C.

fulminant

refers to a condition that is severe or aggressive.

fundoscopy

examination of the interior of the eye with an instrument (fundoscope) that allows the examiner to peer into the eyeball through the pupil. Fundus photography is used as a diagnostic tool.

fungemia

the presence of fungi in the blood.

fungus

a plant of the subkingdom Thallophytka. A fungus lacks chlorophyll and can be a single cell or a larger plant. Mushroom, mold, smut, yeast are all fungus. Fungi cause candidiasis (thrush), cryptococcal meningitis, toxoplasmosis.

fusin, (CXCR4

a co-receptor on the surface of certain T-cells that, along with the CD4 receptor, allows HIV to penetrate the CD4 cell.

fusion

a union or joining together into one entity.

Fuzeon®, enfuvirtide, T-20

An injectable fusion inhibitor, binds to viral gp41 and prevents the viral particle from being able to enter into the CD4 cell, the first extra-cellular acting ARV.

G

G6PD

glucose-6-phosphate dehydrogenase, a human red blood cell enzyme.

G6PD deficiency may cause severe anemia. People with G6PD deficiency should not take certain antimicrobial medications (eg, dapsone) due to the risk of developing anemia.

gag

the gene of HIV that encodes the core proteins of the virus; also refers to the proteins produced by the gene.

gamma globulin (IgG)

component of blood serum (plasma) containing antibodies.

gamma interferon

see interferon

ganciclovir, DHPG, Cytovene®

an antiviral drug used to treat cytomegalovirus (CMV) infection. Ganciclovir may be administered intravenously via an indwelling central catheter or via an intraocular implant. An oral form is used as maintenance therapy for CMV retinitis; it may also be effective for primary prophylaxis. Side effects include neutropenia.

ganglion (plural ganglia)

a cluster of nerve tissue primarily composed of neuron cell bodies.

gastroenteritis

inflammation of the mucous membrane of the stomach or intestine.

gastrointestinal

pertaining to the stomach and intestines.

gastrointestinal (GI) tract
the digestive system consisting of the mouth, stomach, small intestine, large intestine, and anus.

G-CSF
see granulocyte colony-stimulating factor.

gene (adjective genetic)
the unit of heredity. A gene contains hereditary information encoded in the form of DNA and is located at a specific position on a chromosome in a cell's nucleus. Genes determine many aspects of anatomy and physiology by controlling the production of proteins. Each individual has a unique sequence of genes, or genetic code.

gene expression
the production of a particular gene product or protein.

gene product
the protein encoded by a specific gene.

gene therapy
an approach to preventing and/or treating disease by replacing, removing, or introducing genes or otherwise manipulating genetic material. Examples include adding a gene to a cell to produce a specific missing protein, using antisense molecules to prevent viral replication, and altering CD4 cells to make them resistant to HIV infection. Genes may be introduced by direct injection or using a harmless viral vector to deliver genes into cells.

generic name
a common name used to identify a drug, as opposed to a brand name used by a particular company (eg, TMP-SMX is the generic name the drug sold as Bactrim® or Septra®).

genetic engineering
manipulation of an organism's genetic material to modify the proteins it produces.

genital
refers to the reproductive or sexual organs.

genital herpes
see herpes simplex virus.

genital ulcer disease
one of several, usually sexually transmitted diseases (eg, syphilis, chancroid) that are characterized by the development of ulcers on the skin or mucous membranes. The presence of ulcers may facilitate the transmission of HIV and other STD.

genome (adjective genomic)
the unique genetic code or hereditary material of an organism, carried by a set of chromosomes in the nucleus of each cell. The human genome contains an estimated 50,000-100,000 genes; the genome of HIV contains 9 genes.

genotype

the specific genetic makeup or "blueprint" of an individual. Contrast with phenotype.

germinal center
a part of the lymph node in which lymphocyte proliferation and maturation takes place and where T-cells are "educated" to recognize antigens.

giardiasis
infection with a Giardia protozoan (eg, Giardia lamblia), which is spread via contaminated food or water and by fecal-oral contact. Giardia infects the intestines and produces nausea, cramping, and diarrhea.

gingivitis
gum disease; inflammation of the gingiva, which may be accompanied by pain and/or bleeding. Gingivostomatitis is a combined inflammation of the gingiva and other oral mucous membranes. See also periodontal disease.

glaucoma
a disease of the eye marked by increased pressure within the eyeball. If left untreated, glaucoma can damage the optic nerve and cause loss of vision.

glial cells
non-neuronal cells that perform support functions in the brain, providing structure and assisting metabolism. AIDS dementia complex is believed to involve infection of glial and other support cells.

gliosis
a proliferation of glial cells in the brain; a condition frequently seen in people with HIV-related dementia.

globulin
a blood protein. See also immunoglobulin.

glomerulonephritis
an inflammatory disorder of the glomeruli of the kidney, often due to the buildup of immune complexes.

GLG223
see trichosanthin.

glucocorticoid
a steroid-like substance (eg, cortisol) capable of influencing metabolism, regulating the immune system, and exerting an anti-inflammatory effect.

glucose (blood sugar)
a form of sugar that is the body's primary fuel; glucose broken down from food can be converted into energy or stored. Abnormally low or high levels of glucose in the blood often indicate metabolic disturbances (eg, diabetes).

glutathione
an antioxidant containing the amino acid cysteine which is needed for cellular production of energy and proper immune function. Glutathione has been reported to suppress HIV in vitro and may reduce HIV-related apoptosis (cell death).

glycoprotein (gp)

a small unit made up of a sugar and a protein molecule, often part of a cell's membrane. Glycoproteins make up the envelope of HIV (eg, gp120, gp160 [numbers denote molecular weight]).

GM-CSF

see granulocyte macrophage colony-stimulating factor.

gonad

an organ that produces gametes (ova and sperm), ie, an ovary or a testis

gonadotropin

a hormone (eg, follicle-stimulating hormone) that acts on the gonads to promote their growth and function.

gonococcal

related to infection with the *Neisseria gonorrhoeae* organism (eg, gonococcal urethritis, gonococcal vaginitis).

gonorrhea

a sexually transmitted disease caused by the bacteria *Neisseria gonorrhoeae*. Gonorrhea may be asymptomatic or may include symptoms such as urethritis, discharge, pelvic pain, and inflammation of the tissues of the genitals, rectum, and/or throat. Untreated, gonorrhea may spread to the upper genital tract and lead to pelvic inflammatory disease (PID) in women and may spread, affecting other organs such as the heart and brain.

gp

see glycoprotein.

gp120

gp120 is the name of the glycoprotein which forms the spikes sticking out of a HIV virus particle. Its main function is to bind to CD4 in human cells.

gp160

a glycoprotein in the outer envelope of HIV which enables the virus to enter human cells. The glycoprotein is produced by the viral env gene and cleaved into gp120 and gp41 fragments.

gp41

protein on the outer surface of HIV that can pierce the surface of a helper T-lymphocyte cell, part of HIV's infection mechanism.

granulocyte

a type of white blood cell (basophil, eosinophil, neutrophil) that contains granules of toxic chemicals that are released to fight microorganisms.

granulocyte macrophage colony-stimulating factor (GM-CSF)
a hormone that stimulates growth of granulocytes and macrophages. Synthetic GM-CSF (Leukine/Neupogen) is used to treat or prevent neutropenia caused by certain drugs. Side effects include fever, rash, and bone pain.

granulocytopenia
a condition indicated by a low number of granulocytes, leading to a high risk of bacterial infection.

growth factor
a factor responsible for regulating cell proliferation, development, migration, differentiation and/or activity.

guanosine triphosphate (GTP)
an energy-rich molecule that is required for the synthesis of peptide bonds during translation.

guanine (g)
one of the purine nucleic acid bases that make up nucleotides, the building blocks of DNA and RNA

Guillain-Barré syndrome
an acute disease which is a rare complication of viral infection and even rarer complication of vaccination, that produces nerve inflammation resulting in bilateral weakness or paralysis, beginning most often in the legs and feet. The paralysis may rise even to the point of stopping breathing.

gynecology
the study and treatment of the genital and reproductive system of women.

gynecomastia
greater than normal breast development in males; may be a side effect of some drugs.

H

HAART
highly active antiretroviral therapy, combination therapy using at least three anti-HIV medications of two or more different classes of drugs.

Haemophilus influenzae
a rod-shaped bacterium that occurs in the human respiratory tract and causes acute infections (eg, pneumonia, meningitis). The bacteria was once believed to be the cause of influenza, which is now known to be caused by a virus.

hairy leukoplakia
a white lesion on the cheeks, gums or tongue, possibly related to Epstein-Barr virus infection; an AIDS-defining condition. This is not the usual, benign white coating commonly seen on the tongue.

half-life

the time required for half the amount of an agent (eg, drug, virus, cell type) to be eliminated from the body by metabolism in the liver, or excretion from the kidneys and lungs.

HCG

see human chorionic gonadotropin.

hematocrit (HCT)

the percentage of red blood cells in a given amount of whole blood. The hematocrit reflects oxygen-carrying capacity; a drop in hematocrit may indicate bone marrow dysfunction. Red blood cells normally constitute about 38-54% of the whole blood in men and about 37-47% in women.

hemo-

prefix, blood.

hemoglobin

a protein in red blood cells that carry oxygen and contain iron.

hemophilia

a disorder that prevents normal blood clotting. Hemophilia is hereditary.

hemorrhage

loss of a large amount of blood from the arteries or veins. A hemorrhage may be internal or external.

HEPA (high-efficiency particulate air) filter

a type of air filter that protects against airborne transmission of tuberculosis.

heparin

a chemical found in many tissues, especially the liver, that prevents blood clotting. Heparin is released by basophils and mast cells in inflammatory and allergic responses. It is used therapeutically to prevent blood clotting.

hepatic

adj, pertaining to the liver

hepatitis

an inflammation of the liver that may be caused by several agents, including viruses and toxins. Hepatitis is characterized by jaundice, enlarged liver, fever, fatigue, and abnormal liver function tests. See individual types below.

hepatitis A (HAV, infectious hepatitis)

an inflammatory viral disease of the liver with a short incubation period. Hepatitis A virus (HAV) may be transmitted by eating contaminated food, by fecal-oral contact, and/or through household contact. Symptoms may be mild to severe and include fever, nausea and jaundice. An anti-HAV vaccine is available.

hepatitis B (HBV, serum hepatitis)

a viral liver disease that may be acute or chronic, and can be life-threatening. Symptoms include fever, headache, muscle and joint pain, malaise, nausea, and jaundice. Some individuals are chronic asymptomatic carriers; chronic hepatitis B may result in liver cirrhosis and/or cancer. HBV can be transmitted by sexual contact, shared needles,

or contaminated blood products. Interferon-alpha is used as a treatment; a 3-dose anti-HBV vaccine is available.

hepatitis C (HCV, formerly non-A, non-B hepatitis)

a contagious viral disease that causes inflammation of the liver. A chronic carrier state occurs in some individuals and may result in life-threatening liver damage, cirrhosis, and/or liver cancer. HCV is spread via contaminated blood products, shared needles, or sexual contact. There is no vaccine.

hepatitis D (formerly delta hepatitis)

a type of hepatitis that occurs only in people who are also infected with hepatitis B.

hepatitis E (formerly enteric or epidemic hepatitis)

a type of hepatitis caused by a virus that is common in parts of Africa and Southeast Asia. It is usually mild and self-limiting, except in pregnant women, who may have severe cases. Hepatitis E is shed in the feces and can be spread by the fecal/oral route.

hepatitis G (HGV; also called hepatitis GB virus C or HGBV-C)

a flavivirus and a distant relative of HCV.

hepatomegaly

liver enlargement.

hepatosplenomegaly

enlargement of the liver and spleen.

hepatotoxicity

adj, being toxic to the liver

herpes simplex encephalitis (HSE)

inflammation of the brain caused by infection with the herpes simplex virus.

herpes simplex virus (HSV-1, HSV-2)

a herpesvirus that causes blisters and recurring disease. Herpes simplex virus type 1 (HSV-1) usually produces lesions on the lips or in the mouth ("cold sores" or "fever blisters"). HSV-2 is usually sexually transmitted, and lesions generally occur in the genital and/or anal area. Both HSV-1 and HSV-2 are treated with acyclovir and valacyclovir.

herpes zoster (shingles)

caused by reactivation of a previous infection with the varicella-zoster virus (VZV) that initially causes chickenpox; VZV lies dormant in the nerves and reactivates when immune defenses are weakened. Shingles outbreaks may occur more frequently in people with HIV disease..

herpesvirus (herpetoviridae)

a group of viruses that includes herpes simplex virus type 1 (HSV-1 or HHV-1) and 2 (HSV-2 or HHV-2), varicella-zoster virus (VZV or HHV-3), Epstein-Barr virus (EBV or HHV-4), cytomegalovirus (CMV or HHV-5), human herpesvirus types 6 and 7 (HHV-6, HHV-7) and Kaposi's sarcoma-associated herpesvirus (KSHV or HHV-8).

heterogeneous

mixed; made up of diverse, dissimilar elements or parts.

heterozygote (adjective heterozygous)

an individual who possesses 2 different alleles, or gene variants, at a given site on a chromosome. Contrast with homozygote.

Hickman catheter

a flexible tube surgically inserted into a blood vessel for infusions of medicine and nutrition over a long period of time.

histamine

a white crystalline compound involved in immune responses (hormone or chemical transmitter). It regulates production of stomach acid and is the main cause of allergic reactions. [C₅H₉N₃]

histoplasmosis

a fungal infection (*Histoplasma capsulatum*) that is usually confined to the Mississippi River Valley. It can cause inflammation in multiple organs: lungs, meninges, heart, etc.

HIV, human immunodeficiency virus,

. a slow-acting retrovirus of the lentivirus family, the sole or primary cause of AIDS. HIV is transmitted sexually, through blood, or from mother to child. There are 2 known types: HIV-1 and HIV-2: HIV-1-- the cause of HIV disease and AIDS and formerly called HTLV III and LAV; HIV-2--a retrovirus closely related to simian immunodeficiency virus (SIV) and less closely related to HIV-1. HIV-2 is found primarily in West Africa, and similar to HIV-1 but typically milder and longer in progression.

HIV associated minor cognitive/motor disorder

an early stage of AIDS dementia complex.

HIV negative, seronegative

showing no evidence of infection with HIV by testing for the presence of antibodies directed against HIV.

HIV positive, seropositive

showing evidence of infection with HIV (eg, presence of antibodies against HIV) on a test of blood or tissue.

HIV-associated cognitive/motor complex

see AIDS dementia complex.

HIVIG

concentrated anti-HIV immunoglobulins used in passive immunotherapy.

HLA, human leukocyte antigen,

a genetic marker of "self" which prevents the immune system from attacking the body's own tissues. Various HLA patterns are associated with HIV.

Hodgkin's disease

a cancer of the lymphatic system characterized by enlarged lymph nodes and spleen, wasting, fever, and anemia. The disease is treated with chemotherapy and radiation. See also non-Hodgkins lymphoma.

homeostasis

maintenance of equilibrium or a stable bodily state (eg, temperature, fluid composition).

homology (adjective homologous)

similarity. Homologous DNA is similar at matched positions (eg, SIV and HIV-2 are 70% homologous). Homologous blood or tissue transfers are those that are transferred or transplanted from one individual to another. Contrast with autologous.

homozygote

an individual who possesses 2 copies of the same allele, or gene variant, at a given site on a chromosome. Contrast with heterozygote. (adjective homozygous)

hormone

a substance created by one organ, transmitted to another, that causes some activity in the second organ system, ie, testosterone.

hormone replacement therapy (HRT)

the administration of exogenous hormones (typically estrogen) to replace those that the body is not able to produce (eg, due to menopause or hysterectomy). HRT is used to relieve symptoms hormonal deficiency (eg, hot flashes, osteoporosis).

HPV

abbreviation, see human papillomavirus.

HSV

herpes simplex virus

HTLV

human T-lymphotropic virus

HTLV-I/HTLV-II

human T-cell leukemia virus.

human growth hormone, HGH, somatotropin, Serostim®

a peptide hormone secreted by the anterior pituitary gland. HGH enhances growth by stimulating metabolism and protein synthesis. Recombinant human growth hormone (Serostim) is a genetically engineered drug used for the treatment of HIV-related wasting syndrome. Side effects include muscle pain, edema and carpal tunnel syndrome.

human herpesvirus 6 (HHV-6)

infects lymphocytes, including CD4 cells, generally occurs early in life and may cause fever, roseola (a red skin rash) in infants, and might be associated with chronic fatigue syndrome, multiple sclerosis, and certain autoimmune diseases.

human herpesvirus 7 (HHV-7)

herpesvirus that infects human T-cells, but is not known to cause disease.

human herpesvirus 8 (HHV-8)

see Kaposi's sarcoma-associated herpesvirus.

HVTN (HIV Vaccine Trials Network)

an NIAID-sponsored network that conducts trials of experimental HIV vaccines at research centers formerly called AIDS Vaccine Evaluation Units

hyper-

prefix: over, above, beyond, excessive.

hypersensitivity

an overreaction, especially to a drug.

hypo-

prefix: below, under, less than normal.

!

iatrogenic

an unfavorable response to medical or surgical treatment (eg, peripheral neuropathy caused by an antiviral drug).

IBT, immune-based therapy, immunotherapy

a therapy that attempts to modify or enhance immune response, or reconstitute a damaged immune system. Examples of immune-based therapies for HIV disease include active immunization (vaccination), passive hyperimmune therapy, CD8 cell line expansion, and cytokine therapy.

IC, inhibitory concentration

a measure of how much drug is needed to inhibit viral replication, ie, the IC50 is the concentration of a drug that eliminates 50% of a population of microorganisms.

idiopathic CD4 t lymphocytopenia (ICL)

immunosuppression and low CD4 cell count with no detectable cause. ICL syndrome has been called "non-HIV AIDS."

idiopathic thrombocytopenic purpura (ITP)

"Idiopathic" means that the cause is unknown, "thrombocytopenic" means the blood doesn't have enough platelets, "purpura" means a person has excessive bruising. When the platelet count is very low, the patient may have uncontrolled bleeding, from nosebleeds to massive GI bleeding, ITP may be an AIDS-defining condition.

IDU, IDVU

injection drug user.

immune

exempt, not affected, not responsive.

immune complex

a cluster formed when an antigen and an antibody (or multiple antigens and antibodies) bind together. Immune complexes may circulate in the blood or lodge in tissues, where they can lead to physiological damage.

immune response

the activity of the immune system (eg, against a microorganism or cancerous cell).

immune restoration, immune reconstitution

rebuilding of a damaged or compromised immune system.

immune surveillance

the immune system's recognition of and defense against foreign organisms and cancerous cells.

immune system

the body's defense system that protects against foreign invaders (eg, microorganisms) and cancerous cells. Organs of the immune system include the lymph nodes, spleen, thymus, tonsils and bone marrow.

immunity

natural or acquired resistance to a specific disease.

immunization

the process by which a person is protected against the adverse effects of infection by a disease-causing microorganism. Active immunization (vaccination) involves inoculating a person with an antigen and relying on his/her body to mount an immune response. Passive immunization involves giving a patient exogenous (manufactured or transferred from another individual) antibodies.

immunocompetent

capable of mounting an appropriate immune response.

immunocompromised

reduction in immune system function.

immunodeficiency

the inability of the immune system to work properly, resulting in susceptibility to disease. Immunodeficiency may be either congenital (present from birth) or acquired. HIV leads to immunodeficiency by attacking T-cells.

immunoendocrinology

a branch of medicine that combines the study of the immune system (immunology) and the study of the endocrine glands and their hormones (endocrinology).

immunogen

an antigenic agent that stimulates an immune response.

immunoglobulin

one of a group of blood serum proteins that can act as an antibody.

immunoglobulin a (IgA)

a type of antibody found in body fluids and the mucous membranes lining the openings of the body. IgA is the basis of mucosal immunity, attacking pathogens at the site of entry into the body.

immunoglobulin d (IgD)

a specialized immunoglobulin of unknown function found in small amounts in the blood.

immunoglobulin e (IgE)

a type of antibody associated with mast cells. IgE is responsible for immediate hypersensitivity (allergic) reactions and immune defense against parasites.

immunoglobulin g (IgG, gamma globulin)

the most common type of antibody in the plasma. IgG provides specific immunity against particular antigens, and is a major defense against bacteria, viruses, and toxins. IgG starts the complement cascade that

results in the destruction of the membrane of pathogens. IgG extracted from donor plasma (gamma globulin) is used for passive immunization.

immunoglobulin m (IgM)
a type of antibody that (along with IgG) provides specific humoral immunity against bacteria and viruses.

immunology (adjective: immunologic)
the study and/or treatment of disorders that involve the immune system (eg, cancer, HIV disease, autoimmune diseases).

immunomodulator (immune)
an agent or process capable of modifying or influencing the function of the immune system. Immune modulators include cytokines (eg, IL-2, gamma interferon) and broad-acting agents. See immunotherapy.

immunostimulant (immunopotentiator)
an agent that stimulates or enhances the function of the immune system.

immunosuppression
reduced function of the immune system; a state in which the immune system defenses have been suppressed, damaged, or weakened.
See also immunomodulator.

IMPAACT
formerly PACTG – NIH Division of AIDS therapeutic research network; Infant Maternal Pediatric Adolescent AIDS Clinical Trials.

impairment
dysfunction, damage, or deterioration.

in vitro
in an artificial environment, ie, test tube experiments.

in vivo
within a living organism, especially lab experiments.

incidence (incidence rate)
the number of new cases of a diseases or condition in a specific population over a given period of time. The incidence rate is determined by dividing the number of new cases by the total population.

inclusion/exclusion criteria
characteristics of an individual which qualify or disqualify him/her from taking part in a clinical trial (eg, CD4 cell count, pregnancy, other drugs taken).

incubation period
the time between an initial exposure to an infectious agent and the development of symptoms of disease.

IND, investigational new drug
an FDA classification applied to experimental drugs undergoing trials to assess safety and efficacy prior to marketing approval. IND status must be granted before a drug can enter Phase I testing. See also treatment IND, supplemental IND.

induction
the initiation phase.

induration

a swelling and hardening of soft tissue caused by infiltration of macrophages and CD4 cells. Injection of a substance (eg, tuberculin PPD) and "reading" of the resulting induration is used to detect previous exposure to an organism, or to gauge the strength of the immune response.

infection

a condition in which the body is invaded by an infectious organism (eg, bacterium, virus, fungus). An active infection is one that leads to disease symptoms; a latent infection remains dormant within the body.

infectious

capable of being transmitted from one individual to another, for example, through sexual contact.

inflammation

the body's response to tissue injury or infection, which typically includes increased vessel dilation and permeability, resulting in redness, swelling, heat, and pain.

inflammatory bowel disease (IBD)

A disorder of the colon that causes stomach pain, constipation, and diarrhea.

informed consent

a protection for people entering a drug trial. Each participant in a clinical trial must sign a consent form that explains the purpose of the trial, the results expected, the mechanics of the trial, potential risks, a list of other treatments that are available and the rights of the patient. There is a statement telling the participant that (s)he can leave the trial at any time.

infusion

the introduction of a solution into a vein, especially medicine or nutritional supplements.

inguinal

relating to the groin.

inhibitor

a substance used to retard or stop an undesirable reaction.

institutional review board, IRB

a committee of physicians, medical experts, researchers, and community members, at an institution or hospital involved in biomedical research that oversees all human trials. At all ACTG sites, all clinical trials are required to be approved by the institution's IRB.

insulin

a peptide hormone produced by the Islets of Langerhans cells in the pancreas. Insulin enables the body to metabolize and use glucose. Lack of or insensitivity to insulin results in diabetes.

insulin-like growth factor, IGF

a substance naturally produced by the body that has many of the same effects as growth hormone. There are 2 types, IGF-1 and IGF-2; a genetically engineered form of IGF-1 is under study as a therapy for AIDS-related wasting.

Intelence®, etravirine, TMC-125

The first NNRTI with the ability to be used after NNRTI resistance.

integrase

a viral enzyme that enables the integration of viral genetic material into a host cell's DNA.

integrase inhibitor

an antiviral drug that blocks viral replication by interfering with the action of the integrase enzyme.

intent-to-treat

a method of analysis in clinical trials that groups each participant according to the arm to which s/he was initially assigned (eg, experimental drug, standard therapy, placebo), regardless of whether s/he remains in that arm for the duration of the study.

interaction

a change in the way one drug acts when it is taken with some other drug or substance.

interferon

a protein in a cell produced to prevent replication of a virus in the cell.

interferon-alpha, Intron-A®, Roferon-A®

a type of interferon produced in response to viral infection. Genetically engineered interferon-alpha is used to treat Kaposi's sarcoma, anogenital warts, and hepatitis B and C. Side effects include flu-like symptoms, anemia, and neutropenia.

interferon-beta

a type of interferon that typically has less severe side effects than interferon-alpha. Interferon-beta is used to treat multiple sclerosis and is under study as a treatment for human papillomavirus (HPV) infection.

interferon-gamma (immune interferon, Actimmune)

a type of interferon produced by CD8 and CD4 cells. Interferon-gamma is used to treat leprosy and is under study as a treatment for toxoplasmosis, PCP, and MAC.

interleukin (IL)

a hormone; a cytokine (chemical messenger) secreted by immune system cells that regulates a range of immune system functions.

interleukin 1 (IL-1)

a cytokine released by monocytes, macrophages and other immune cells that fight infection. IL-1 activates helper T-cells, mediates acute systemic immune symptoms (eg, fever) and acts on the hypothalamus to decrease appetite.

interleukin 10 (IL-10)

a cytokine released by TH2 T-cells that stimulates the proliferation and activity of B-cells, modulates macrophage function and enhances humoral (TH2) immunity, while suppressing cell-mediated immune function.

interleukin 12 (IL-12)

a cytokine produced by lymphocytes (eg, monocytes, macrophages) that activates natural killer cells and cytotoxic T-lymphocytes and induces the

production of interferon-gamma. IL-12 is associated with the cell-mediated (TH1) immune response. Recombinant IL-12 is under study as an immunomodulatory treatment for HIV disease.

interleukin 2 (IL-2, T-cell growth factor, Aldesle)

a cytokine produced by activated CD4 cells that promotes the proliferation and activity of CD4 cells, CTL, and natural killer cells. Recombinant IL-2 (Aldesleukin, Proleukin) is used for cancer therapy. Side effects include flu-like symptoms (fever, chills), decreased blood pressure and anorexia.

interleukin 3 (IL-3)

a hematopoietic factor that promotes the growth and differentiation of several types of blood cells (red, white and platelets).

interleukin 4 (IL-4)

a cytokine released by the TH2 subset of CD4 cells that stimulates antibody production.

interleukin 6 (IL-6)

a cytokine produced by macrophages that mediates acute systemic immune responses.

intolerance

inability of the body to appropriately metabolize an agent or drug, often characterized by adverse side effects.

intra-

within, internal.

intracellular

within a cell.

intracranial

within the skull.

intracutaneous

within the skin.

intraepithelial neoplasia

abnormal cell growth that suggests possible malignancy. Common sites are the anus (anal intraepithelial neoplasia) and the cervix (cervical intraepithelial neoplasia).

intralesional

within a lesion, especially an injection

intramuscular (IM)

administered injection into a muscle.

intranasal

administered through the nose.

intraocular

administered into the eye. An intraocular implant is embedded in the eye and releases a drug slowly over time.

intrathecal

injected into the fluid (theca) around the spinal cord.

intrauterine device (IUD)

a contraceptive device, typically made of plastic and sometimes including copper, that is placed within the uterus to prevent pregnancy.

intravaginal

introduced into the vagina.

intravenous (IV)

injected directly into a vein.

intravenous immune globulin (IVIG)

broad-spectrum concentrated antibodies administered intravenously to treat conditions in which the body does not produce enough of its own antibodies. Recombinant and pooled immunoglobulins from blood donors are used to prevent bacterial infections, especially in children with HIV disease.

intravitreal

within the eye.

invasive cervical cancer

an aggressive type of cancer of the uterine cervix that has spread beyond the surface cell layers. Invasive cervical cancer is more common and spreads more rapidly in women with HIV disease, and is an AIDS-defining illness.

Invirase, saquinavir

a protease inhibitor (PI), the first PI approved. Saquinavir is not considered first line, and is used less often than many other PIs – it is not as powerful as many of its brethren

IRB

institutional review board.

Isentress

The first HIV integrase inhibitor – brand name of raltegravir.

Islets of Langerhans (islet cells)

cells in the pancreas that produce insulin.

isolate

a specific individual microbe and its genetically identical progeny.

isoniazid (INH)

an antibiotic used in combination regimens to treat tuberculosis. Side effects include liver toxicity and peripheral neuropathy.

isosporiasis

isosporiasis is an intestinal disease caused by a parasite -- Isosporiasis belli -- which is found in the tropics and subtropics. Symptoms include diarrhea, cramps, and weight loss. It is easily confused with cryptosporidiosis, an AIDS-defining condition.

itraconazole (Sporonox)

a triazole antifungal drug used to treat various fungal diseases (eg, cryptococcosis, histoplasmosis). Side effects include nausea and headache.

J

jaundice

yellow discoloration of the skin and whites of the eyes caused by the inability of the liver to break down the pigment bilirubin. Jaundice is often associated with liver damage or disease (eg, hepatitis), with gallbladder disease, and with the excessive destruction of red blood cells, and often with atazanavir, a PI.

K

Kaletra

a PI of lopinavir in fixed dose combination with ritonavir.

Kaposi's sarcoma (KS)

an abnormal or cancerous proliferation of cells and blood and/or lymph vessels causing tumors on the skin, mucous membranes, and/or internal organs. KS typically appears as pink or purple flat or raised lesions. Types include classic KS, African KS, and AIDS-related or transplant-related KS. KS is associated with a herpesvirus (KSHV, or HHV-8).

Karnofsky score

a subjective score (0-100) given by a doctor to describe a patient's ability to perform everyday tasks (eating, dressing, etc.)

keratitis

inflammation of the cornea of the eye.

keratosis

a skin condition characterized by overgrowth and thickening of the outer skin layers; a skin lesion marked by flat or elevated growth. Keratosis may develop into squamous cell carcinoma. Types include actinic keratosis and seborrheic keratosis.

ketoconazole, Nizoral®

an imidazole drug used to treat systemic fungal or yeast infections (eg, candidiasis, histoplasmosis). Side effects include liver toxicity.

ketotifen, Zaditen®

an antihistamine drug that lowers TNF-alpha levels and is under study as an immunomodulatory therapy for HIV disease.

kidney (adjective: renal)

one of 2 bean-shaped organs located in the lower back part of the abdominal cavity. The kidneys filter waste material from the blood and excrete it as urine. Some, but not many, HIV drugs are renally excreted, like TDF.

kidney stone, nephrolithiasis

an accumulation of calcium in the kidney, which may lead to pain and blockage, a common concern with IDV.

killer T cells

an immune system cell (cytotoxic lymphocyte) that directly kills other infected cells in the body (eg, cancer cells, cells infected by a virus). Also called natural killer cells. See cytotoxic T-lymphocyte.

L

Lamivudine, Epivir, 3TC

a nucleoside analogue for HIV with activity against hepatitis B. Side effects include headache, nausea, low white blood cell count.

lamivudine/zidovudine, Combivir®

a combination tablet.

Langerhans cell

a type of dendritic cell in the skin and mucous membranes that transports antigens to the lymph nodes.

laparoscopy

a procedure in which a small, lighted instrument is inserted through an abdominal incision for the purpose of diagnosis, biopsy, or surgery.

latency

being present but not evident. In HIV disease, the virus is present for years before any symptoms appear; the virus is active and damages the immune system.

late-stage disease

advanced progression of a disease. Late-stage HIV disease occurs 5-10 or more years after initial HIV infection, and is characterized by low CD4 cell counts, high viral load levels, wasting syndrome, and possibly the presence of multiple opportunistic infection symptoms.

lavage

the washing out of an organ or cavity, for example, to obtain a sample for diagnosis.

lean body mass

muscle and organ tissue.

legionellosis (Legionnaire's disease)

an upper-respiratory tract infection caused by Legionella bacteria, which are widely distributed in nature and may be spread via contaminated water supplies. Infection is often acquired in a hospital.

lentivirus

a subfamily of retroviruses that includes HIV. Lentiviruses kill cells and are associated with chronic, slow-developing diseases.

leucovorin (leucovorin calcium)

a derivative of folic acid, a member of the vitamin B complex. Leucovorin protects cells from the cytotoxic effects of certain drugs (eg, dapsone, trimetrexate) and is used to prevent drug-induced anemia.

leukocyte

white (actually colorless) blood cell.

leukocytosis

abnormally high number of white blood cells.

leukopenia

abnormally low number of white blood cells.

levofloxacin

a broad-spectrum quinolone antibiotic used to treat respiratory infections.

limb fat:

The fat tissues normally found in the extremities both in the skin and deep tissues, surrounding muscle.

lipoatrophy:

reduced fat tissues, especially in the subcutaneous layer of the skin, face, limbs, and buttocks, often as part of a lipodystrophy syndrome in people with HIV on medications, especially D4T (Zerit).

lipodystrophy:

a syndrome described in people with HIV, most often under drug therapy, where fat tissues may be decreased in some areas, especially the limbs, and increased in the fat tissues within the abdominal wall and surrounding the internal organs. Increased fat deposition may also be seen in the parotid glands, neck, and upper back ("buffalo hump"). The syndrome is linked in many cases to mitochondrial toxicity, and is especially linked to the nucleoside analogue D4T (Zerit), but may also be seen with other medications.

lipid

a fat.

lipogenesis

production of lipids (fats).

lipopolysaccharide (LPS, endotoxin)

a molecule composed of fat and sugar. LPS is produced by certain bacteria and makes up part of their cell wall. When the bacteria die, the toxin is released, leading to the release of cytokines resulting in symptoms of chills, fever, and possibly shock.

lipoprotein

a compound composed of protein and fats.

liposomal daunorubicin (dox-sl, Doxil)

a liposomal form of daunorubicin used to treat Kaposi's sarcoma.

liposome (lipid vesicle)

a spherical fat particle suspended in a liquid. Liposomes are used to carry drugs or other substances to cells or tissues, allowing them to remain active longer in the body and have a less detrimental effect on the liver.

listeriosis

a serious, sometimes fatal, bacterial disease [Listeria (L.monocytogenes)] that looks like severe encephalitis but with paralysis, an AIDS-defining condition.

live-attenuated virus

an altered live virus used in vaccines to provoke an immune response.

Live-attenuated vaccines may induce longer-lasting protection than whole-killed virus, but involves some risk of mutation to the original, more virulent wild-type.

liver (adjective: hepatic)

a large organ in the upper abdominal cavity that cleanses toxins and dead cells from the blood and is important in metabolic transformation of various substances. The liver is responsible for excreting drugs and alcohol from the body. Many drugs can be toxic to the liver.

liver enzyme

a protein produced by the liver (eg, SGOT, SGPT) that catalyzes various physiological reactions. Abnormally high levels of liver enzymes in the blood may indicate liver damage or disease. See also transaminase.

liver function test (LFT)

a blood test that measures levels of liver enzymes to indicate how well the liver is working and whether it might be inflamed or damaged.

log

a measure based on the logarithmic scale that refers to quantities in factor of 10. A log change is an exponential or 10-fold increase or decrease (eg, 10 to 100 is a 1-log increase; 1,000,000 to 10,000 is a 2-log decrease).

Changes in viral load are often expressed in logs.

long terminal repeat (LTR)

a segment of the HIV gene that must be activated to "turn on" viral replication.

longitudinal

refers to a study that follows participants over an extended period of time.

long-term nonprogressor, LTNP

a person who has been infected with HIV for many years but who maintains a high T-cell count and has no evidence of opportunistic infections. Probably less than 1% of people with HIV meet this definition.

Genetic factors are presumed to be responsible and are under study.

Loperamide, Imodium ad

an anti-diarrhea drug.

lopinavir, LPV,

a protease inhibitor.

lopinavir/ritonavir, LPV/r, Kaletra®, Aluvia®

coformulated lopinavir with low-dose ritonavir, which inhibits LPVs metabolism and enhances LPV's effectiveness. Side effects are diarrhea, fatigue, headache, nausea.

low-dose oral interferon-alpha, Kemron)®

a form of the cytokine interferon-alpha that is given in low doses under the tongue.

LTR inhibitor

a substance that interferes with the long terminal repeat of the HIV gene, thus inhibiting viral replication.

lumbar puncture (spinal tap)

the insertion of a needle into the subarachnoid space of the spinal column to remove cerebrospinal fluid for diagnosis, or to inject medications or anesthesia.

lymph

a clear or yellowish fluid containing white blood cells and some red blood cells that travels through the lymphatic system. The lymph system helps remove bacteria and some proteins from tissues. It also transports fat to the intestines.

lymph node (lymph gland)

small, bean-sized organs located throughout the body, with concentrations in the neck, groin, and armpits. Lymph nodes filter out antigens and are the site of antigen presentation and immune activation. The lymph nodes are a reservoir site for HIV.

lymphadenopathy

inflammation (swelling) of lymph nodes caused by numerous conditions, including flu, mononucleosis, lymphoma, and primary HIV infection.

lymphadenopathy-associated virus (LAV)

an early name for the virus now known as HIV.

lymphatic system (adjective: lymphoid)

a network of capillary-like vessels, ducts, nodes, and organs that help maintain the fluid environment of the body and coordinate immune responses. Two major lymphatic vessels return fluid to the vascular system. The lymphoid organs include the lymph nodes, spleen, thymus, tonsils, and adenoids.

lymphoblastosis

the production of lymphocytes.

lymphocyte

a T-cell or B-cell, white blood cells responsible for immune defense.

lymphocytic interstitial pneumonia (LIP)

a rare type of pneumonia common in children with HIV-AIDS.

lymphocytopenia

reduced numbers of white blood cells (eg, CD4 cells).

lymphokine

a chemical messenger (eg, interferon, interleukin) produced by lymphocytes that directs and regulates immune responses by stimulating macrophages, killer cells, and other lymphocytes.

lymphokine-activated killer cell (LAK cell)

a type of lymphocyte (neither a T-cell nor a B-cell) that has cytotoxic activity against a broad range of cells and are not major histocompatibility complex restricted.

lymphoma

cancer of the lymphatic system

lymphopenia

a decreased number or proportion of lymphocytes in the blood.

lymphoproliferative

refers to the proliferation or replication of lymphocytes.

M

MAC, Mycobacterium avium complex

a disease caused by *M. avium* or *M. intracellulare* (sometimes referred to as Mycobacterium avium-intracellulare or MAI), bacteria found in soil and water. In immunosuppressed persons, the bacteria can infect the lymph nodes, intestines, bone marrow, liver, spleen, spinal fluid, lungs, and GI tract. MAC is the most common bacterial infection in persons with advanced AIDS (usually under 50-75 CD4 cells/mm³). Symptoms include diarrhea, wasting, fever, night sweats, fatigue, and enlarged spleen. Clarithromycin is used as treatment and prophylaxis for MAC, an AIDS-defining condition.

macro-

prefix: large.

macrolide

one of a group of antibiotic drugs (eg, clarithromycin, azithromycin) related to erythromycin.

macrophage

a large (phagocytic) cell in the immune (reticuloendothelial) system. This is the reconnaissance unit of the blood stream (circulating) looking for foreign matter, alerting (by producing neopterin) the entire immune system if there is a problem.

MACS, Multicenter AIDS Cohort Study

a set of longitudinal studies of over 5000 gay and bisexual men in four U.S. cities; data are available for men from as far back as 1984.

macula

the pigmented central area on the retina that is devoid of blood vessels. The macula is the most sensitive area of the retina and is responsible for retinal nourishment. Macular degeneration refers to the atrophy of the macula, which may lead to vision loss.

maculopapular eruption

a rash with both flat and raised lesions or sores.

magnesium (Mg)

a mineral necessary for proper metabolism. Magnesium deficiency may worsen sensory neuropathy and affect immune function.

maintenance therapy (secondary prophylaxis)

preventive therapy that follows successful initial treatment of an illness. Generally, maintenance therapy continues for the lifetime of the patient to prevent disease recurrence.

mal-

prefix: bad, abnormal.

malabsorption

ineffective or substandard absorption of nutrients or drugs in the intestines.

malignancy

a tumor, cancer, or an abnormal growth that tends to metastasize (spread)

malignant (noun: malignancy)

refers to a cancer, neoplasm or tumor that grows in an uncontrolled manner, invading nearby tissue and spreading (metastasizing) to other sites through the bloodstream. Contrast with benign.

malnutrition (malnourishment)

lack of the minimum amount of fluids, proteins, carbohydrates, lipids, vitamins, minerals, and other nutrients essential for sound health and growth and may result from poor diet, lack of appetite, or abnormal absorption of nutrients from the GI tract.

Maraviroc, Celsentri®

The first entry inhibitor – a CCR5 co-receptor antagonist.

Marinol

A medicine containing the active ingredient dronabinol. Also contains delta-9-THC, also found in the marijuana plant.

marker

a lab result or symptom observation used to measure a treatment's effectiveness or an individual's immune system status. Also refers to a unique identifier on a cell's surface. See also surrogate marker.

marrow

the soft tissue filling a cavity in bones, consisting of fat cells and maturing blood cells.

marrow suppression

a side-effect of some drugs that leads to a decrease in white blood cells, red blood cells, and platelets.

mast cell

a basophil (a type of granular white blood cell) that has left the bloodstream and entered a tissue. Mast cells release histamine and heparin, chemicals that mediate allergic reactions.

maximum tolerated dose

the largest dose of a drug a patient can take without unacceptable adverse side effects.

MDR-TB, multidrug-resistant tuberculosis

a strain of *M. tuberculosis* that is resistant to 2-4 standard anti-TB drugs. Treatment requires aggressive, much more complicated, therapy.

megakaryocyte (thromboplast)

a large, multilobed cell in the bone marrow that gives rise to platelets.

megestrol acetate, Megace®

a synthetic progesterone used to stimulate appetite and promote weight gain in people with HIV-related wasting syndrome. Side effects may include menstrual changes in women, feminizing side effects in men, and swelling of the hands and feet.

melanoma

a cancer derived from melanin-producing cells.

membrane

a thin sheet or layer of pliable tissue serving as a semi-permeable covering.

memory cell

a cell that remains after the body mounts an immune response to an antigen and is capable of an immediate response to the reappearance of the same antigen. Memory cells include certain subsets of T-cells (CD4 and CD8) and some B-cells.

meningismus

stiffness of the neck resulting from infection and/or inflammation of the membranes covering the brain and spinal cord.

meningitis

inflammation of meninges, usually a bacterial infection.

meningoencephalitis

inflammation of the brain or meninges. (plural, meninges)

menopause

the cessation of menstruation due to hormonal changes, surgery, or drug use. Natural menopause typically occurs between 45 and 55 years of age; women with HIV may experience early menopause.

menstruation (menses)

a stage of the female reproductive cycle. An ovum (egg) matures and is released every month. Hormones are released to prepare the uterus for possible implantation. If pregnancy does not occur, the uterine lining (blood and tissue) is shed and expelled (the menstrual period).

Mepron®, atovaquone

Approved for the treatment of mild to moderate PCP pneumonia in people who are intolerant to standard treatments.

messenger RNA (mRNA)

pieces of ribonucleic acid that carry genetic information from DNA to ribosomes, leading to the synthesis of new proteins.

metabolism (adjective: metabolic)

the process of building the body's molecular structures from nutrients (anabolism) and breaking them down for energy production (catabolism).

metabolite

a product of metabolism, including intermediate and waste products.

metastasis (adjective: metastatic, verb: metastasize)

Cancer that has spread from the primary or original site to another part of the body.

methadone

an oral opioid drug used for pain therapy and to treat opiate (eg, heroin) addiction. Methadone maintenance therapy is used to prevent withdrawal symptoms by administering a small dose of methadone on a regular (eg, daily) basis.

methemoglobin

a form of hemoglobin that is unable to combine reversibly with, and thus transport, oxygen.

metronidazole (Flagyl®)

an antibiotic drug used to treat giardiasis and under study for the treatment of microsporidiosis.

MHC, major histocompatibility complex

a group of genes that control the expression of cell surface protein markers (also known as human leukocyte antigen or HLA markers) that determine receptor shape and allow immune cells to recognize components of the body (ie, to distinguish "self" from "non-self"). MHC molecules are necessary for antigen presentation and for recognition of antigens by immune system cells. Each individual has one of a variety of genetically-determined MHC/HLA patterns

micro-

prefix:small.

microbe

a tiny living organism (eg, bacterium, protozoan, fungus), especially those which cause disease.

microbicide

an agent that inactivates, kills, or destroys microbes, especially important these days as a means of receiver-controlled barrier.

microglia

cells within the brain that are related to macrophages.

micronutrient

a trace element; an organic compound small amounts of which are essential for physical health, growth, and metabolism.

microsporidiosis

infection (Microsporidia protozoal pathogen) that causes diarrhea and cramps. This is sometimes incorrectly diagnosed as cryptosporidiosis.

mineral

an carbonless inorganic element that promotes enzymatic reactions within the body and is necessary for proper cellular metabolism. Essential minerals include sodium, potassium, calcium, phosphorous, and magnesium.

MIP-1 alpha, MIP-1 beta

two chemokine proteins that affect HIV activity. MIP-1-alpha and MIP-1-beta are believed to act in conjunction with RANTES, another chemokine.

mitochondrion (plural: mitochondria)

the small structure within the cells of your body that generate energy. These energy factories break down fat and carbohydrates very efficiently, and act like separate microorganisms within the cell, even having their own DNA that replicates in harmony with, but separately from, the DNA in the nucleus. They may be the result of an "infection" of a cell millions of years ago, as there are free-living organisms in nature with DNA that is very similar to human mitochondrial DNA.

mitochondrial toxicity

poisoning of mitochondria, in the context of HIV disease refers to the blocking of mitochondrial DNA replication, by HIV medications, especially d4T (Zerit®).

mitogen

a substance that stimulates the division of cells and can induce cancerous growth.

molecule
a small unit of matter made up of atoms. A molecule is the smallest unit of a substance that retains its unique characteristics.

molluscum contagiosum
an infectious skin disease caused by a virus. Symptoms are small, white wart-like lumps on the skin on the face or body.

monilia
a group of yeast-like fungi related to Candida.

mono-
prefix: one, alone.

monoamine oxidase inhibitor (MAO inhibitor)
an older class of therapeutic drugs used to treat clinical depression.

monoclonal antibodies (MAB)
antibodies derived (often by genetic engineering) from a single cell or its clones. MAB are specifically directed against a particular antigen (eg, anticytomegalovirus antibodies) and are used as tools to detect and identify specific proteins.

monocyte
a large white blood cell that plays a role in immune defense by acting as a scavenger that destroys invading microorganisms. Monocytes circulate in the bloodstream; when they migrate to the tissues, they mature into macrophages. Monocytes are a reservoir of HIV.

monokine
a cytokine produced by monocytes and macrophages.

Mononucleosis, 'kissing disease'
an infectious disease caused by the Epstein-Barr virus that is easily transmitted via saliva. The disease is characterized by a sore throat, fatigue, and possibly swollen glands or a swollen spleen.

monotherapy
use of a single drug or other therapy.

morbidity
sickness; the state of being affected by disease.

morphine
a narcotic analgesic derived from opium that has effects on the central nervous system and the bowel. Morphine is used for the relief of acute or chronic severe pain.

motility
the ability to move.

motor function
movement functions of the body.

MRI, magnetic resonance imaging
a diagnostic technique that uses magnetic fields and radio waves (instead of x-rays). MRIs produce a three-dimensional computer model..

mucocutaneous

denoting the junction where mucous membrane and skin meet at the oral, vaginal, and anal orifices of the body.

mucoritis

infection with a Mucorales fungus. The disease may involve the brain or sinuses. Infection is rare and usually occurs in immunocompromised people.

mucosal immunity

immunity that involves IgA antibodies located in the mucous membranes at the openings of the body (eg, the genital tract).

mucous membrane (mucosa)

a moist layer of semi-permeable tissue lining the openings of the body (eg, the gastrointestinal, respiratory, and genitourinary tracts).

mucus

a thick, viscous fluid secreted by mucous membranes that consists primarily of glycoproteins (eg, mucin). Mucus acts as a protective barrier and lubricant.

multinucleated giant cell (MGC)

a cell that forms clusters in the brain. MGCs are associated with HIV infection.

multivariate analysis

a statistical analysis technique in which multiple variables are analyzed independently to determine the contribution made by each individual variable to an observed result.

musculoskeletal

relating to the muscles and the skeletal system.

mutation

a change in the character of a gene that can be perpetuated in subsequent cell divisions.

myalgia

muscular pain

myasthenia

abnormal muscular weakness

myco-, myc-

prefix: fungus.

mycobacteria

a category of gram-positive, acid-fast bacteria that contains species that cause diseases such as tuberculosis, leprosy, and Mycobacterium avium complex.

Mycobacterium kansasii

an atypical mycobacterial species that usually does not cause disease in humans, but may do so in immunocompromised individuals.

Mycobacterium tuberculosis

commonly called tuberculosis or TB. A bacterial infection.

mycosis (adjective mycotic, mycological)

a disease caused by fungus (eg, candidiasis, cryptococcosis, histoplasmosis).

myelin

a white fatty substance that forms the sheath around the axons of some neurons and provides insulation necessary for proper neural transmission.

myelo-, myel-

prefix: spinal cord, marrow.

myelocyte

a type of immature white blood cell normally found in the bone marrow.

myeloma

a malignant tumor of the bone marrow.

myelosuppression

inhibition of bone marrow activity, causing decreased production of blood cells.

myelotoxic

destructive to the bone marrow.

myocardium (adjective myocardial)

the muscle layers of the heart.

myositis

inflammation of the skeletal muscle, which may involve muscle degeneration and weakness. Polymyositis simultaneously involves several muscles. Dermatomyositis is a condition characterized by both skin and muscle inflammation.

N

NAC (n-acetylcysteine)

a substance that is converted within the body to cysteine, an amino acid that is a component of glutathione, a major cellular antioxidant. NAC may block the action of tumor necrosis factor.

naive

inexperienced. The term is used to describe an individual who has never taken a certain drug or class of drugs (eg, AZT-naive, antiretroviral-naive), or to refer to an undifferentiated immune system cell.

naive T-cell

a subset of CD4 and CD8 cells that proliferate rapidly when exposed to new antigens. Naive cells are "uncommitted" and respond to general antigenic stimulation (ie, not to a specific antigen). A naive T-cell is not yet "programmed" to stimulate either a cell-mediated (TH1) or a humoral (TH2) response.

naltrexone (Revia, Trexan)

a drug used to treat opiate (eg, heroin) addiction and alcoholism.

Naltrexone blocks the opiate receptors, preventing cells from responding to opiate drugs and endorphins. Naltrexone has been used as an immune modulator by some people with HIV disease.

National Cancer Institute (NCI)

a U.S. government-sponsored research agency of the National Institutes of Health, that deals with malignant diseases.

National Institute of Allergy and Infectious Diseases (NIAID)

an agency of the National Institutes of Health that conducts federally funded research aimed at preventing, diagnosing, and treating infectious diseases such as AIDS and tuberculosis. NIAID conducts the majority of HIV/AIDS research in the U.S., including the AIDS Clinical Trials Group (ACTG), Community Programs for Clinical Research on AIDS (CPCRA), and the HIV Vaccine Trials Network (HVTN).

National Institutes of Health (NIH)

a large biomedical research organization that is part of the U.S. Public Health Service. NIH includes various institutes, centers, and divisions, several of which (eg, NIAID) perform AIDS-related research.

National Science Foundation (NSF)

the agency of the U.S. federal government that coordinates and funds scientific and technological research, including medical research.

natural history study

a study of the development of a disease over the course of time.

natural killer cell, NK cell

a type of lymphocyte that attacks and kills tumor cells and cells infected with microorganisms. Unlike cytotoxic T-lymphocytes, NK cells are nonspecific and attack infected cells without regard to specific antigens or MHC receptor configuration.

NDA, new drug application

an application made by a drug manufacturer to the FDA requesting marketing approval of a new drug.

nebulizer

a device used to convert liquid medication to a fine mist that can be inhaled.

necrosis

localized tissue death.

nef

a gene of HIV that influences viral replication; also the protein produced by that gene.

nelfinavir (Viracept®, NFV)

a protease inhibitor not currently recommended due to low genetic barrier and significant adverse events (diarrhea).

neo-

prefix: new, recent.

neoplasm

abnormal new growth in plant or animal tissue, a tumor.

neopterin

a substance produced by macrophage cells when they find a foreign substance in the blood stream. Neopterin alerts other cells to take action

against the intruder. Measuring neopterin is one way of finding out how well the immune system is working.

nephro-, neph-
prefix, kidney.

nephrotoxicity

being poisonous to the kidneys; many drugs have nephrotoxic side effects.

nerve

a cordlike structure composed of fibers that conduct impulses between the central nervous system and other parts of the body. See also neuron.

nerve growth factor (NGF)

one of a family of proteins that nourish and sustain neurons.

neural

relating to a neuron, a nerve or the nervous system.

neuralgia

pain along a nerve pathway.

neuritis

inflammation of the nerves, typically accompanied by symptoms of pain and tenderness.

neuro-,neur-

prefix, pertaining to the central nervous system (brain, spinal cord).

neuroimaging

examination of the brain by external methods (eg, MRI, CT scan).

neurologic

pertaining to the central nervous system (brain and spinal cord) or the peripheral nervous system (the nerves in the rest of the body).

neurology

the branch of medicine concerned with the nervous system and its disorders.

neuron, nerve cell

a cell that conducts electric neural impulses from one part of the body to another. Neurons are made up of dendrites (branch-like fibers which receive impulses) and axons (fibers which transmit impulses), and communicate with other neurons and effector organs at junctures called synapses.

neuropathy (adjective: neuropathic)

damage to the nerves; an inflammatory or degenerative condition of the nervous system. See also peripheral neuropathy.

neuroradiology, neuroradiography

the study or diagnosis of parts of the nervous system using x-rays.

neurotoxicity

the quality of being destructive of or poisonous to the tissues of the nervous system.

neurotransmitter

a chemical messenger (eg, dopamine, serotonin) used to communicate among neurons and between neurons and other types of cells.

neutralizing antibody

an antibody that neutralizes (renders harmless) infectious microorganisms. Neutralizing antibodies to HIV block the ability of the virus to infect cells. Contrast with enhancing antibody.

Neutrexin®

see trimetrexate.

neutropenia

a low number of neutrophils in the blood. See also neutrophils.

neutrophil

a white blood cell (granulocyte) that is filled with chemicals that can destroy (digest) microorganisms. These cells are the body's defense against bacterial infection.

nevirapine (Viramune®, NVP)

a non-nucleoside reverse transcriptase inhibitor (NNRTI) approved for the treatment of HIV disease. Nevirapine binds to the reverse transcriptase enzyme. Side effects include rash and liver toxicity. Women with more than 250 CD4s should not take it; same for men above 400. Used in many PMTCT situations.

nf-kappa b (NF-κB)

nuclear factor kappa B, a regulatory protein that functions to increase cellular metabolic activity and cell division. Certain HIV genes contain receptors for NF-κB, which may induce increased HIV gene expression and thus viral replication.

niacin

a vitamin needed for the metabolism of proteins, carbohydrates and fats. Signs of niacin deficiency include weakness, headache, skin rash, and diarrhea.

night sweats

abnormal sweating during sleep.

nitric oxide

a reactive oxygen intermediate (free radical) that has several biological functions.

NNRTI

see non-nucleoside reverse-transcriptase inhibitor.

nodule (nodular lesion)

a hard, raised area of the skin or a mucous membrane; a knot or swelling.

nongonococcal cervicitis (NGC)

inflammation of the uterine cervix caused by an organism other than *Neisseria gonorrhoeae* (eg, *Chlamydia trachomatis*, *Trichomonas vaginalis*).

nongonococcal urethritis (NGU)

inflammation of the urethra caused by an organism other than *Neisseria gonorrhoeae*.

non-governmental organization, NGO, (AKA CBO, ASO)

an organization not run by a government. Many international public health groups are NGOs.

non-Hodgkins lymphoma (NHL)

- a type of cancer of the lymph nodes. NHL is characterized by abnormal growth of B-cells, and is the most common type of lymphoma in people with HIV/AIDS. See also Hodgkins disease, lymphoma.
- non-nucleoside reverse transcriptase inhibitor (NNRTI)
a drug (eg, nevirapine, efavirenz) that inhibits the action of the HIV-1 reverse transcriptase enzyme.
- nonopioid analgesic
a pain reliever (eg, aspirin, ibuprofen) that is not derived from opium and does not have opium-like characteristics and effects.
- nonoxynol-9
a chemical that has been used as a spermicide and microbicide (eg, in contraceptive foams, as a lubricant on condoms). It is no longer widely used or considered effective.
- nonspecific immunity
immune system function (eg, phagocytosis) that is not directed toward a specific antigen or pathogen. Contrast with specific immunity.
- nonsteroidal anti-inflammatory drug (NSAID)
a drug (eg, aspirin, ibuprofen) that relieves pain and reduces inflammation and fever, but which is not a steroid or a narcotic.
- Norplant
levonorgestrel, a progesterone-releasing contraceptive that is embedded under the skin of the upper arm.
- Norvir, ritonavir
a protease inhibitor today recommended only as a low-dose booster of other PIs. Typically, it is seen as /RTV or /r after the name of the primary PI. It is used not for its antiviral effects but its ability to block the excretory pathway of the liver thus keeping more of the other PI in the system longer.
- NSI
non-syncytium-inducing strain of HIV. See syncytium.
- nuclease
an enzyme (or group of enzymes) which splits nucleic acids into different products.
- nucleic acid
DNA and RNA, molecules made up of nucleotides that carry genetic information.
- nucleic acid base
one of the components that make up the genetic material; in combination with sugar and phosphate groups they form nucleotides, the "building blocks" of DNA and RNA. There are two types of bases, purines (adenine and guanine) and pyrimidines (cytosine, thymine and uracil). Bases are complementary and can bind with their counterpart in a process known as base-pairing.
- nucleic acid sequence-based amplification (NASBA)
a load assay for detecting HIV viral load in blood plasma. NASBA amplifies RNA rather than DNA.

nucleoside

a precursor compound that is converted to a nucleotide by the addition of a phosphate group.

nucleoside analogues (NA)

compounds (eg, AZT, 3TC, TDF) that mimic one of the building blocks of DNA and RNA. NAs suppress retroviral replication by interfering with the reverse transcriptase enzyme. The resulting defective synthetic nucleosides cause termination of the viral DNA chain.

nucleotide (deoxyribonucleotide, ribonucleotide)

one of the building blocks that make up the genetic material (DNA and RNA). Nucleotides consist of a base (adenine, cytosine, guanine, thymine or uracil), a sugar, and a phosphate group.

nucleotide analogue

a compound (eg, TDF), similar to a nucleoside analogue, which is already "primed" with an extra phosphate group and ready to be added to a DNA chain.

nucleus

central part of a cell which contains its genetic material.

nutrient

any item that nourishes or promotes growth and metabolism. Nutrients act as cofactors in many vital physiologic processes.

nutrition

the processes involved in ingesting and metabolizing food material by living plants and animals.

NVP

see nevirapine.

Nystatin, Mycostatin®

a topical treatment for candidiasis (thrush).

O

observational study

a study in which no experimental drug is administered, but the patient's symptoms, laboratory values, and response to treatment are observed during the course of normal medical management.

occult

hidden or concealed (eg, an occult cause of disease).

odynophagia

painful swallowing.

Office of AIDS Research (OAR)

the U.S. federal agency responsible for coordinating AIDS research done by various federal departments, institutes, and agencies.

off-label use

use of an FDA-approved drug for an indication other than that for which the drug was approved.

OI

see opportunistic infection.

oligo-
few.

oligodendrocyte
a type of brain cell that produces myelin, a protective covering necessary for proper neural transmission.

oligomenorrhea
sparse menstrual bleeding.

oligonucleotide
a short sequence of nucleotides, the building blocks of DNA.

oncogen
an agent (eg, virus, toxin) that is able to cause neoplastic cell growth or cancer.

oncogene
a gene (eg, p53) that facilitates the development of cancer by regulating cell growth, either by actively "turning on" abnormal cell growth or failing to "turn off" normal cell growth.

oncogenesis
the development and growth of a tumor.

oncology
the study and treatment of cancer.

onychomycosis
a fungal infection that causes the toenails and/or fingernails to thicken, discolor, and split. Onychomycosis is often one of the earliest manifestations of HIV disease progression.

oocyst
the earliest stage of the life cycle of a parasitic protozoan (eg, cryptosporidium) in which it is enclosed in a hard-shelled capsule. Oocysts are dormant (non-growing) but may still be infectious.

oophorectomy
surgical removal of the ovaries.

oophoritis
inflammation of the ovaries, a possible manifestation of pelvic inflammatory disease.

open label trial
a clinical trial of a drug in which researchers and patients know which drug is being administered to who. (also see double-blind and clinical trial.)

ophthalmology
the medical specialty relating to the treatment of diseases and disorders of the eye.

opioid (opiate, narcotic)
a class of drugs (eg, heroin, codeine, methadone) that are derived from the opium poppy plant, contain opium, or are produced synthetically and have opium-like effects. Opioid drugs relieve pain, dull the senses, induce sleep, and are addictive.

opportunistic infection (OI)

an illness caused by a microorganism that usually does not cause disease in persons with healthy immune systems, but which may cause serious illness when the immune system is suppressed. Common OIs in HIV-positive people PCP, MAC, and CMV.

oral

relating to the mouth; taken by mouth.

oral candidiasis (thrush)

a fungal infection of the mouth, usually caused by *Candida albicans*, which appears as white or red patches on the oral mucosa, tongue, palate, or back of the throat.

oral hairy leukoplakia

a condition caused by the Epstein-Barr virus characterized by white, raised, usually painless lesions on the sides of the tongue and elsewhere in the mouth.

organelle

one of the specialized small organs of a living cell (eg, mitochondria).

organic

relating to an organ in the body or relating to the processes of living cells and organisms.

Orphan Drug Act

a law designed to facilitate the development of drugs to treat rare disorders by providing financial incentives to drug companies.

orthopedics

the branch of medicine that deals with preserving and restoring function of the musculoskeletal system using physical or surgical methods.

os

the opening of the uterine cervix into the vagina.

osteomyelitis

an inflammation of the bone and/or bone marrow.

osteoporosis

atrophy of the bone tissue; loss of calcium from the bones. Osteoporosis is influenced by hormonal levels and may be ameliorated by calcium intake.

otitis media

inflammation of the middle ear.

outbreak

a recurrence of a latent infection (eg, a herpes simplex virus outbreak). Also refers to the widespread occurrence of a disease within a population.

outpatient

treatment in a hospital or other medical facility that does not require overnight stay.

ovary

one of the two female gonads located within the abdomen on either side of the uterus. The ovaries are the site of egg growth and maturation.

ovum (plural: ova)

an egg.

oxandrolone

an oral anabolic (mass-building) steroid used as a therapy for HIV wasting syndrome.

oxidation

a chemical reaction in which another substance combines with oxygen by giving up an electron. Oxidants (pro-oxidants) promote this reaction, while antioxidants inhibit it. Oxidation is the process by which carbohydrates, fats, and proteins from food are broken down to provide usable energy for the body. See also oxidative stress.

oxidative stress

increased levels of free radicals and other oxidation-promoting molecules associated with disease, immune response, and aging. When the production of pro-oxidants exceeds the cellular supply of antioxidants, harmful effects may result including cell membrane damage, cell death, and damage to genetic material (DNA and RNA) resulting in mutations.

oxygen (O₂)

a colorless, odorless gas that is essential to the normal function of all cells of the body.

oxygenated blood

blood that has passed through the lungs and exchanged its carbon dioxide for oxygen. Oxygenated blood is pumped from the left ventricle to the various organs and tissues of the body.

P

p24

a core protein of HIV produced by the gag gene.

p24 antibody

antibodies produced in response to the presence of p24 antigen of HIV. The p24 antibody test measures the level of p24 antibodies in the blood. High levels of p24 antibody in the absence of p24 antigen may indicate that the immune system is successfully suppressing the virus.

p24 antigen

protein fragment (nucleocapsid) of HIV. At one time, p24 antigen was considered a surrogate marker for disease progression. Today, scientists know there are long-term non-progressors with high p24 lab readings. People have died of AIDS without ever showing any p24 antigen.

p450

see cytochrome P450 system.

palliative

offering symptomatic relief and comfort care rather than a cure.

pancreas

a gland lying behind the stomach that secretes both insulin and pancreatic fluids, which contain enzymes used during digestion.

pancreatitis

potentially fatal inflammation of the pancreas. Pancreatitis is a side effect of some anti-HIV drugs. Symptoms include severe stomach pain.

pancytopenia

low levels of all types of blood cells.

pandemic

a widespread disease outbreak affecting the population of an extensive area of the world. See also epidemic.

Papanicolaou smear (Pap smear)

a procedure in which a specimen of cells is taken from any accessible site (usually cervix), prepared on a slide, and examined under a microscope for abnormal cell growth (dysplasia). An abnormal Pap smear suggests increased risk of developing cancer.

papovavirus

a type of virus that can cause neoplasms (eg, warts, cancer).

papule

a small raised bump on the skin or mucous membrane.

paranasal sinus

an air-filled cavity within the skull; there are four sets of paranasal sinuses: frontal, maxillary, sphenoidal and ethmoid.

paraplegia

paralysis of both legs and the lower part of the body. See also quadriplegia.

parasite

an organism that grows and feeds in or on another organism without the host benefiting; most are harmless, but some are deadly. The most common ways of getting a parasitic infection are from contaminated water and rimming (oral-anal contact).

parasympathetic nervous system

a branch of the autonomic nervous system that tends to induce secretion, increase the tone and contraction of smooth muscle, and cause dilation of blood vessels.

parenchyma

the internal functional tissues of an organ, as opposed to supporting or structural tissues.

parenteral

given by injection, bypassing the enteral (gastrointestinal) tract.

paresthesia

abnormal physical sensations such as prickling or tingling.

paromomycin, Humatin®

an antibiotic used to treat intestinal infections such as amebiasis, giardiasis, and cryptosporidiosis.

parvovirus

a family of viruses, several species of which infect humans, including the adeno-associated viruses which are used as vectors in biotechnology. Parvoviruses tend to infect rapidly growing tissues. Symptoms include fever, malaise and possibly skin rash.

passive immunity

immunity acquired by transfer of antibodies, either naturally (eg, from mother to fetus) or by injection. Contrast with active immunity.

passive immunization, passive immunotherapy

the introduction of exogenous antibodies (gamma globulins) to treat disease, for example from an individual with active immunity, or of genetically engineered antibodies. Contrast with active immunization.

pasteurization

partial sterilization of a substance (especially a liquid) using heat to destroy harmful organisms without inducing major chemical alteration of the substance.

pathogen (adjective: pathogenic)

any disease-causing agent, especially a microorganism.

pathogenesis

the development of a particular disease, including the specific events involved, bodily tissues or systems affected, mechanisms of damage, and timing of the course of disease.

pathogenicity

the property of being able to cause disease.

PCP, pneumocystis jiroveci pneumonia

a life-threatening type of pneumonia that can cause severe illness in immunocompromised people (especially those with CD4 counts less than 200 cells/mm³); it remains a leading cause of death in people with AIDS. Symptoms include dry cough, fever, chest tightness, and shortness of breath. Pneumocystis jiroveci can also infect other parts of the body. First-line treatment and primary prophylaxis is TMP-SMX (Bactrim®, Septra®); other treatments and prophylaxes include Dapsone, Pentamidine, and Atovaquone.

PCR, polymerase chain reaction

a laboratory test to determine a patient's viral load. It works by repeatedly copying genetic material using heat cycling and enzymes; used to see how well a drug regimen is working. The lower the viral load the better.

peak level

the highest concentration of a drug achieved in the body.

pelvic exam

examination of the organs of the female reproductive system. A speculum is used to open the vagina and aid in visualizing the uterine cervix; a sample of cells may be taken for a Pap smear or laboratory culture. The uterus and ovaries are palpated (felt with the fingers) to detect swellings or other abnormalities.

pelvic inflammatory disease (PID)

infection of the upper female reproductive tract including the uterus, fallopian tubes, and ovaries. PID is often the result of untreated chlamydia or gonorrhea. Symptoms include pain, fever, and vaginal discharge. Without treatment, PID can become chronic and severe and

may lead to scarring, infertility, ectopic pregnancy, septicemia, and death.
See also salpingitis.

penicillin

an antibiotic drug used to treat various bacterial infections. Penicillin G is a strong form of penicillin used to treat neurosyphilis.

pentamidine, Pentam, Nebupent®

a drug used to prevent and treat PCP. Intravenous pentamidine is used to treat severe cases of PCP, especially in patients who cannot tolerate TMP-SMX. Aerosolized pentamidine is used as a prophylaxis against PCP. Side effects may include pancreatitis.

pentoxifylline, PTX, Trental

a drug used to treat circulatory problems. PTX increases the production of interferons and reduces levels of tumor necrosis factor (TNF) in the body.

peptide

a short chain of amino acids linked by peptide bonds; longer chains are generally called proteins.

pericarditis

inflammation of the pericardium, the membrane that surrounds the heart.

perinatal HIV transmission

the transmission of HIV from mother to fetus or infant. ARV treatment (to mom, baby or both) significantly reduces the risk of mother to child transmission. See also vertical transmission.

periodontal disease (periodontitis)

an inflammatory disease of the tissues that surround and support the teeth. Periodontal disease may begin as gingivitis and progress to more serious gum disease accompanied by erosion of the gums and bone supporting the teeth.

peripheral blood mononuclear cell (PBMC)

a single-nucleus white blood cell (eg, monocyte) that circulates in the blood. See also mononuclear cell.

peripheral nervous system (PNS)

the portion of the nervous system outside of the brain and spinal cord; nerves that run from the spinal cord to the rest of the body.

peripheral neuropathy

any disease, inflammation, or abnormality of the peripheral nervous system, an AIDS-defining condition in the United States.

peritoneum

the thick membrane that lines the abdominal cavity and covers the visceral organs. The peritoneal cavity is the space between the outer and inner layers of the peritoneal membrane.

peritonitis

inflammation of the peritoneum.

persistent generalized lymphadenopathy (PGL)

a condition in which the lymph nodes are chronically swollen in more than one area of the body for a prolonged time, sometimes accompanied by a swollen spleen.

PET scan

see positron emission tomography.

PGL

see persistent generalized lymphadenopathy.

phagocyte

a scavenger white blood cell (eg, neutrophil, basophil, eosinophil, monocyte, macrophage) that engulfs and destroys dead cells, bacteria, and other debris.

pharmacodynamics

the study of drug activity.

pharmacokinetic (PK) trials

a clinical trial of a drug that concentrates on the body's ability to absorb, distribute, metabolize and excrete the drug. Blood tests are commonly given every few minutes or hours during a pharmacokinetic trial.

pharmacology

the science of drugs, their sources and how they work; the specialty of preparing and dispensing drugs.

pharmacotherapy

the use of drugs to treat disease.

pharyngitis

pain and inflammation of the pharynx (throat).

pharynx (adjective pharyngeal)

the throat; the upper part of the gastrointestinal tract between the oral cavity and the esophagus.

phase I clinical trial

the first clinical trial of an experimental drug in humans, designed to evaluate the pharmacokinetics, safety, and toxicity (adverse reactions) at various dosing levels. Most have only a small number participants, a part of the FDA approval process.

phase II clinical trial

the second stage of the evaluation of a new drug in humans; these trials evaluate drug safety and efficacy, involve more participants (up to several hundred) and last longer than phase I studies. Phase II trials may be divided into phase IIa (pilot trials in patients with the disease to be treated) and phase IIb (well-controlled efficacy trials that may transform into phase III trials at some point). Phase II trials are done only if phase I trials have shown the drug to be safe.

phase III clinical trial

these trials are designed to verify and extend the information gathered in phase II trials, and involve large numbers of participants (several hundred in HIV). Phase III trials may compare the drug being tested to the standard of care or to placebo. In HIV, only to SOC.

phase IV clinical trial

postmarketing studies done after regulatory approval has been granted and the drug is marketed. These trials provide additional information about

safety and efficacy in larger numbers of patients under "real world" conditions of use.

phenotype

visible characteristics and/or behavior that result from the interaction of an individual's genetic "blueprint" (genotype) and the environment. Contrast with genotype.

photosensitivity

an increased sensitivity to light, which may lead to easy sunburning and other adverse effects. Photosensitivity is a side effect of some drugs (eg, Dapsone, Hypericin).

phototherapy

treatment using light, typically ultraviolet light.

pituitary gland

a small gland in the brain that produces several hormones that regulate bodily functions via the action of other endocrine glands.

placebo

an inactive substance (sometimes called a sugar pill) given to a control group in a clinical trial.

placebo effect

a change (eg, a reduction in symptoms) that is attributable to the treatment process itself as opposed to the therapeutic value of the therapies used, most likely due to the expectations of the patient.

placebo-controlled trial

a trial of an experimental therapy in which an inactive substance (placebo) is given to one group while the treatment under study is given to another. The results obtained in the different groups are then compared. Placebo is used to make the experience of the treatment and control group as similar as possible and to minimize bias due to the expectations of the patient or investigator. Contrast with uncontrolled trial.

placenta

the vascular organ that connects the fetus and the mother's uterus, through which metabolic exchange between the fetus and mother occurs. Some pathogenic organisms and maternal antibodies may be transferred across the placenta.

plasma

the fluid, non-cellular portion of circulating blood that carries blood cells and nutrients throughout the body, removes metabolic wastes, and is a medium for chemical communications between different parts of the body. See also serum.

plasma cell

a type of blood cell that produces antibodies. Plasma cells develop from B-cells in response to stimulation by an antigen.

platelet

a small blood cell (protoplasmic disk) involved in coagulation and wound healing. HIV can lower a person's platelet count, causing severe bleeding. The normal platelet count is 200,000 to 300,000.

plenary

a meeting, usually part of a large conference, that is open to all participants.

pleura

the linings of the lung.

pleurisy

swelling of the linings of the lung (eg, due to pneumonia, lung cancer) characterized by pain and shortness of breath.

pleuritis

inflammation of the pleura, or linings of the lung.

pluripotent stem cell

a hematopoietic cell in the bone marrow that is capable of differentiating into any type of blood cell.

PML

see progressive multifocal leukoencephalopathy.

pneumococcus

the organism that causes pneumococcal pneumonia.

pneumonia

a group of diseases that show up as an inflammation of the lungs.

Recurrent pneumonia (pneumonia recurring within 1 year) is considered an AIDS-defining condition in the United States.

pneumonitis

an inflammation of the lungs. Pneumonia is a type of pneumonitis.

pneumovax vaccine

a vaccine developed to prevent pneumonia caused by common pneumococcal strains.

pol

the HIV gene that encodes the replicative enzymes (protease, integrase, reverse transcriptase); also the protein produced by that gene.

polycythemia

abnormally high level of red blood cells in the circulating blood.

polymerase

an enzyme that cleaves polymers, chemical compounds formed by the linkage of molecular pieces.

polymicrobial

including or caused by more than one microorganism.

polymorphonuclear leukocyte (PMNL)

a type of white blood cell (eg, neutrophil) containing more than one nucleus. PMNL are phagocytes (scavenger cells) important in immune defense, particularly against cell-free organisms such as fungi.

polyneuropathy

a type of peripheral neuropathy that involves damage to multiple nerves of the peripheral nervous system. Demyelinating polyneuropathy (which involves the destruction of the myelin sheath surrounding the neurons) and sensory axonal polyneuropathy are common in people with HIV disease.

Symptoms may include weakness and painful tingling or burning sensations. See also peripheral neuropathy.

polyp

any mass of tissue that bulges or projects outward or upward from the normal surface level. A polyp may be a precursor to cancer.

polyprotein

a long thread of proteins produced during viral replication. The polyprotein is broken down by the protease enzyme into smaller components, which are then assembled into new virus particles.

polyradiculopathy

a type of peripheral neuropathy characterized by the inflammation of the nerve roots.

positron emission tomography (PET) scan

a method of imaging the brain by recording activity, as measured by cerebral blood flow, in different parts.

post-herpetic neuralgia (PHN)

the often severe pain along a nerve pathway that sometimes follows the healing of herpes zoster (shingles) lesions.

postpartum

the period following childbirth.

potassium

a mineral necessary for the maintenance of homeostasis by the body.

potentiation, boosting

an increase in activity or effectiveness; an interaction between drugs that results in a synergistic effect.

power

a term used to describe the ability of an experiment or trial to find a particular result. Generally the power of a study increases as more subjects are included or as the trial continues for a longer period of time.

poxvirus

one of a large family of viruses (eg, smallpox) that typically cause skin eruptions.

PPD test (Mantoux test)

a test that uses an injection of a purified protein derivative of tuberculin to test for prior exposure to *Mycobacterium tuberculosis*. A positive reaction is induration (redness and swelling) at the injection site. See also tine test.

preclinical testing

testing of an experimental drug in the laboratory or in animals prior to testing in humans.

prednisone

a corticosteroid drug with immunosuppressive effects that is used to decrease inflammation. Side effect may include mood changes, bone loss, nausea, and high blood pressure.

pre-malignant

refers to cells that display abnormal growth and development and may be an early stage in the development of cancer. See also dysplasia.

premature rupture of membranes (PROM)
a breaking open of the amniotic sac surrounding the fetus that occurs more than 4 hours before the onset of labor.

presumptive diagnosis/treatment
treatment based on an assumed diagnosis, prior to receiving confirmatory laboratory test results.

prevalence (prevalence rate)
the number of individuals with a condition in a specific population. The prevalence rate is determined by dividing the number of people with the condition by the total population.

preventive vaccine (prophylactic vaccine)
a vaccine that is intended to prevent a disease from occurring by priming the immune system to respond to a pathogenic organism. Contrast with therapeutic vaccine.

darunavir, Prezista®, TMC114
a protease inhibitor especially apt in cases of PI-resistance

primary care
basic medical care; the first line of medical management of a condition.

primary central nervous system lymphoma
a malignant proliferation of B-cells in the central nervous system associated with the Epstein-Barr virus. Symptoms include partial paralysis, aphasia, lethargy, confusion, memory loss, and seizures.

primary HIV infection
the initial stage of infection with HIV, prior to the development of antibodies. Primary HIV infection may be accompanied by acute retroviral syndrome, characterized by flu-like symptoms including fever, malaise, enlarged lymph glands, sore throat, skin rash, and muscle and joint aches.

primary infection
the initial introduction of an infectious organism into the body.

primary prophylaxis
a treatment intended to prevent the first occurrence of an infection or disease. Contrast with secondary prophylaxis.

principal neutralizing determinant
the part of an antigen that most reliably induces a protective immune response. The principal neutralizing determinant of HIV is the V3 loop of the envelope glycoprotein gp120.

principal investigator (PI)
the chief researcher in a clinical trial.

probenecid
a drug that promotes metabolism by the liver and kidneys, and which may be given with other drugs to lessen liver and/or kidney toxicity.

proctitis
inflammation of the mucous membranes of the rectum.

proctoscopy
examination of the rectum and lower end of the colon with a lighted instrument. See also sigmoidoscopy.

prodrug

an inactive form of a drug that exerts its effects after metabolic changes within the body convert it to a usable or active form.

progesterone

a female steroid hormone with anti-estrogen effects. Progesterone prepares the uterus for the development of the fertilized ovum and maintains the uterus throughout pregnancy. Synthetic progesterone is used as a contraceptive.

programmed cell death

see apoptosis.

progression

advancement of a disease.

progressive disease

a disease that continually increases in severity.

progressive multifocal leukoencephalopathy, PML

a rapidly progressing, often fatal brain disease believed to be caused by the Jacob-Creutzfeldt (JC) papovavirus. PML infects oligodendrocytes (support cells in the brain) and leads to dysfunctional nerve signal transmission. Symptoms include headaches, changes in mental status, speech and vision difficulties, limb weakness, seizures, partial paralysis and loss of coordination, an AIDS-defining condition.

proinflammatory cytokine

a chemical messenger (eg, IL-1, IL-6, tumor necrosis factor) produced by the body that promotes an inflammatory immune response.

prokinetic antiemetic

a drug that relieves nausea by promoting gastrointestinal motility, or speeds up the digestive and excretory processes.

prolactin

a pituitary hormone that stimulates the secretion of breast milk.

proliferation

rapid or uncontrolled reproduction or replication.

prophylaxis

a defense or protection. Several drugs are available to patients with suppressed immune systems to prevent certain opportunistic infections. For example, Bactrim is a prophylaxis against PCP. Using a condom is a prophylaxis against many sexually transmitted diseases; a treatment that helps to prevent a disease or condition before it occurs (primary prophylaxis) or recurs (secondary prophylaxis).

prospective study

a study that looks forward in time. Patients are selected and their progression is followed. A prospective cohort study follows a specific group of people over a period of time. Contrast with retrospective study.

prostaglandin

a locally acting chemical messenger that is produced by many types of cells. Prostaglandins have a wide variety of effects including vasodilation

and smooth muscle regulation; prostaglandins have a role in allergic reactions, uterine contraction, inflammation, and pain signaling.

prostate gland

a walnut-sized gland in males located at the base of the bladder that manufactures the liquid portion of semen.

protease (proteinase)

an enzyme that cleaves proteins. HIV protease cleaves the large precursor proteins produced from viral RNA into the component parts (eg, enzymes and structural proteins) that are then assembled into new viral particles.

Protease is essential for the production of infectious new virions.

protease inhibitor (PI)

a class of anti-HIV drug that prevents creation of an HIV-specific protease.

protein

a complex compound (nitrogenous organic) containing amino acids, used in growth and repair of tissue.

proteinuria

the abnormal presence of protein in the urine.

prothrombin time (PT)

a test that measures blood coagulation ability. Prothrombin is a protein produced by the liver that facilitates blood clotting. See also coagulation factor.

protocol

the official prospectus (plan) of a clinical trial. The protocol explains the purpose of the experimental treatment, and how the results will be tested and evaluated. It also contains information about drug dosing, duration, and inclusion/exclusion criteria.

protozoan

a one-celled microorganism, several of which can cause disease in humans.

provirus

a viral state in which viral DNA has been inserted into the chromosome of the host cell.

pruritus (adjective: pruritic)

a condition characterized by itching.

pseudomonas

a group of aerobic rod-shaped bacteria, some of which (eg, *P. aeruginosa*, *P. fluorescens*) can cause opportunistic infections in human.

psoriasis

a common chronic skin condition characterized by reddish scaly patches, primarily on the scalp, elbows, knees and trunk. Outbreaks are more common and may be more severe in HIV-infected individuals. Psoriatic arthritis is a form of arthritis accompanied by psoriasis.

psychoneuroimmunology (PNI)

the study of how psychological processes, mental state, and neurological and hormonal factors affect the functioning of the immune system.

psychosocial

refers to factors that affect the psychological or social realm. Psychosocial factors (eg, socioeconomic status, education, family situation) may make an important contribution to disease risk and progression, and are an essential aspect of a person's well-being.

psychotropic

an agent (eg, thiorazine) that affects psychic or mental functioning or behavior.

Public Health Service (PHS)

the U.S. federal agency, part of the Department of Health and Human Services, that oversees the health of the public, monitors epidemics, etc. The National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC) are part of the PHS.

puerperal sepsis (puerperal fever)

an infection (eg, with Streptococcus bacteria) acquired during childbirth. Puerperal fever is an outcome of puerperal sepsis characterized by fever, rapid heartbeat and inflammation of the uterus; the condition may be fatal.

pulmonary

relating to the lungs.

pulse oximetry

a method of measuring the amount of oxygen in the blood by means of a clip-like instrument that attaches to the finger.

punch biopsy

the removal of a small piece of tissue from the skin or mucous membrane for diagnostic analysis.

purine

one of the 2 types of nucleotide bases that make up DNA and RNA. The purine bases are adenine and guanine. See also pyrimidine.

purpura

a purplish discoloration due to bleeding underneath the skin.

purulent

characterized by the accumulation of pus.

pus

a thick, greenish-yellow fluid composed of dead white blood cells, killed microorganisms and other cellular debris.

pustule

a small skin elevation or blister containing pus.

p-value

a probability value that is reported in experiments such as clinical trials. The p-value indicates how likely it is that the result obtained by the experiment is due to chance alone. A p-value of less than 0.05 is considered statistically significant, that is, not likely to be due to chance alone.

PLWHA

Person living with HIV/AIDS.

PWA

Person with AIDS.

pyridoxine (vitamin B6)

a form of vitamin B that helps prevent peripheral neuropathy side effects when used with certain drugs (eg, isoniazid).

pyrimethamine, Daraprim

a drug used to treat protozoan infections such as toxoplasmosis. Side effects include bone marrow suppression and allergic skin reactions.

pyrimidine

one of the two types of nucleotide base that make up DNA and RNA. The pyrimidine bases are cytosine, thymine and uracil. See also purine.

Q

quadriplegia

paralysis from the neck down, including the trunk and both legs and arms. See also paraplegia.

qualitative

relating to, or expressed in terms of, quality. Qualitative research is based on individual, often subjective, analysis.

quantiplex HIV RNA assay

see branched-chain DNA assay.

quantitative

relating to, or expressed in terms of, quantity. Quantitative research is based on numerical data.

quantitative competitive polymerase chain reaction (QC-PCR)

a refined, sensitive version of the PCR assay used to detect DNA or RNA using competitive RNA samples for comparison.

quinolinic acid

a naturally occurring toxin in the central nervous system believed to play a role in AIDS dementia complex.

R

radiation

electromagnetic rays, including x-rays, heat, visible light, radio waves, and ultraviolet light.

radical

a highly reactive molecule that may pass intact from one compound to another but does not normally exist in a free state. See also free radical.

radioimmunoassay

a procedure for detecting antigens or antibodies using radioactive-labeled complement proteins.

radiology

a branch of medicine concerned with the use of x-rays to diagnose and treat disease.

raltegravir

the first HIV integrase inhibitor, brand name Isentress, from Merck
randomized trial

an experiment arranged to produce a chance distribution of subjects into different treatment or control arms to cancel out the influence of factors that are not under study. With successful randomization, the chance of one individual being placed in a given study arm is independent of the placement of others, and the only differences between the groups are those intended by the experimenter (eg, different drugs taken).

RANTES

a chemokine protein that affects HIV activity. It is a selective attractant for memory T lymphocytes and monocytes. It binds to [CCR5](#), a coreceptor of [HIV](#). It is also known as CCL5.

rational drug design

the design (often computer-aided) of drugs to interact with specific molecular or cellular targets.

reactivation

the return of a previously latent (inactive) infection to an active, pathogenic state.

receptor

a specific protein-binding site on a cell's surface or interior. When chemical messengers bind to receptors, various cellular functions are activated or inhibited. Many drugs exert their effects by binding to receptors and altering normal cellular communication. Viruses enter cells by fusing with receptors on the cell surface, in conjunction with co-receptors.

rechallenge

to administer the same substance (eg, pathogenic organism, drug) a second or subsequent time. Rechallenge may be done after vaccination to determine whether a vaccine was effective.

recombinant

produced by genetic engineering. Recombinant products are designated by a lower-case r (eg, rHGH).

recombinant DNA

genetically engineered DNA (eg, new DNA produced by joining pieces of DNA from different sources).

recommended daily allowance (RDA)

the amount of a nutrient that is recommended each day to avoid deficiency diseases. RDA is established by the U.S. Department of Agriculture (USDA) in conjunction with the FDA.

reconstitution

rebuilding and restoring to functionality (eg, reconstitution of a damaged immune system).

recrudescence

a new outbreak or active replication of a pathogenic organism after a period of inactivity.

rectum (adjective: rectal)

the lower part of the large intestine where feces are stored.

red blood cell (RBC), erythrocyte
a mature red blood cell that contains hemoglobin. Erythrocytes transport oxygen and carbon dioxide between the lungs and the tissues of the body.

refractory
resistant to treatment.

regimen
treatment taken.

rehydration
replacement of lost fluids.

Reiter's syndrome (reactive arthritis)
an autoimmune disorder characterized by the simultaneous occurrence of arthritis, urethritis (inflammation of the urethra), and conjunctivitis (inflammation of the outer membrane of the eye). The syndrome may occur following other diseases such as chlamydiasis or salmonellosis.

relative risk (RR)
a measure of comparative risk of developing a disease or condition. Statistically, RR is the chance that a person receiving an exposure will develop a condition compared to the chance that a nonexposed person will develop the same condition.

remission
an abatement in the severity of disease symptoms; a period of time during which symptoms are reduced or eliminated.

renal
relating to the kidneys.

repletion
replenishment (eg, of deficient nutrients).

replication
duplication or reproduction.

replicative enzyme
an enzyme that is necessary to the reproductive process. Replicative enzymes of HIV include reverse transcriptase, protease, and integrase.

rescue medication
a strong, short-acting analgesic given to control acute episodes of breakthrough pain in a patient on a continuous pain management regimen.

reservoir
a site where an infectious agent collects and multiplies (eg, macrophages and lymph nodes are believed to be reservoirs for HIV).

resistance
the ability of a microorganism to mutate or change its structure in such a way that it loses its sensitivity to a drug; a resistant organism can function and replicate despite the drug's presence. Contrast with susceptible. See also cross-resistance.

respiratory
relating to the process of breathing.

reticuloendothelial system

a system that helps the body fight infection and eliminate cellular debris by the action of phagocytic cells (eg, macrophages), Kupffer cells in the liver, and reticular cells of the spleen, bone marrow and lymph nodes.

retina

a light-sensitive membrane lining the inner eyeball. Images are formed on the retina before being transmitted to the brain on the optic nerve.

retinal detachment

a condition in which a layer of the retina separates from the underlying epithelium, allowing vitreous fluid to seep behind it. The condition may lead to loss of vision.

retinitis

inflammation of the retina which can lead to blindness. In HIV disease, retinitis is commonly caused by CMV. CMV-related retinitis is considered an AIDS-defining condition in the United States when there is some loss of vision.

retinopathy

any non-inflammatory disease of the retina. Retinopathy is common in people with diabetes.

retrospective study

a study based on the medical records of patients, looking backward in time at events that happened in the past. A retrospective cohort study uses the records of a specific group of patients. Contrast with prospective study.

retrovirus

a retrovirus -- such as HIV -- replicates using an enzyme (reverse transcriptase) to copy its RNA into the host's DNA. Most cells have DNA in their natural state and transcribe to RNA (ribonucleic acid) during replication. A retrovirus does things backwards -- RNA, not DNA, is its natural genetic state.

rev

a gene of HIV; also the protein produced by the gene, which regulates the construction of the structural components of HIV and is necessary for the production of new virus particles.

reverse transcriptase inhibitor (RTI)

a drug that blocks retroviral replication by interfering with the reverse transcriptase enzyme. RTI drugs are not effective after a cell has already been infected. RTI drugs include nucleoside analogues (eg, AZT, 3TC, d4T) and non-nucleoside reverse transcriptase inhibitors (eg, nevirapine, efavirenz).

reverse transcriptase polymerase chain reaction test (RT-PCR test)

a sensitive assay of HIV viral load.

rhinitis

inflammation of the nasal membranes characterized by sneezing, runny nose, and watering eyes. Rhinitis is a common manifestation of an allergic reaction.

rhinovirus

one of a large family of viruses that commonly cause respiratory illnesses (eg, the common cold) characterized by nasal congestion and sore throat, but little or no fever.

ribonucleotide reductase

a viral enzyme which cuts ribonucleotides in order to create deoxyribonucleotides, the building blocks of DNA. Ribonucleotide reductase is essential for DNA replication. Drugs that inhibit ribonucleotide reductase may enhance the activity of nucleoside analogues drugs.

ribozyme

RNA with enzymatic activity that can break down (cleave) and piece together (splice) genetic material (DNA or RNA), thus modifying the genetic instructions it carries. Ribozymes (eg, hairpin ribozyme) are used as "molecular scissors" in genetic engineering.

rifabutin, Mycobutin®

an oral drug used as prophylaxis and treatment for tuberculosis and MAC disease. Side effects may include rash, fever, gastrointestinal distress, liver and kidney toxicity, and bone marrow suppression leading to leukopenia.

rifampin

a drug used in combination treatment for tuberculosis and under study for treatment of MAC. Side effects may include orange-colored body fluids, rash, nausea, fever, and liver toxicity.

RNA, ribonucleic acid

a single-stranded nucleic acid that encodes genetic information. RNA is made up of sequence of 4 chemical building blocks (nucleotides) -- adenine, cytosine, guanine, and uracil. RNA is involved in the transcription of genetic information; the information encoded in DNA is translated into messenger RNA (mRNA), which controls the synthesis of new proteins. RNA takes the place of DNA in retroviruses such as HIV. The presence of HIV RNA in the plasma indicates that the virus is actively replicating.

roseola

see exanthem.

RPR test

rapid plasma reagin, a blood test for syphilis infection. See also FTA-ABS, VDRL test.

RT

see reverse transcriptase.

RT-PCR, reverse transcriptase polymerase chain reaction test

a viral enzyme that allows a retrovirus to translate its genetic material (in the form of RNA) into DNA, which is then integrated into the chromosomes of the host cell.

rupture

a break or tear of an organ or soft tissues.

S

salmonella septicemia

Recurrent salmonella septicemia is considered an AIDS-defining condition. Salmonella bacteria are commonly found in raw meat, poultry, eggs, and raw or unpasteurized milk products. The three forms of salmonellosis in humans are typhoid fever, septicemia (blood poisoning), and acute gastroenteritis, which can cause severe diarrhea and death if untreated.

salpingitis

inflammation of the fallopian tubes. See also pelvic inflammatory disease.

salvage therapy

intensive treatment with multiple or new agents for treating highly experienced patients, usually with drug resistance issues. emergency treatment with an experimental drug of an illness that has not responded to standard therapy.

sarcoma

a malignant tumor of the skin or soft tissues.

SCID mouse

a mouse that lacks key immune system components. SCID mice are used as animal models in the study of transplantation and immune system disorders. SCID-hu mice have had their absent immune system replaced by human immune system components, allowing their use in the study of human immune disorders. See severe combined immunodeficiency.

sclerosis

a hardening of tissue (eg, liver, artery walls), due to cumulative damage, mineral deposition, or other causes.

scotoma

and area of blurred or reduced vision.

scrotum

the external pouch underneath the penis that contains the testes.

seborrhea (seborrheic dermatitis)

an overproduction of sebum (oil) by the sebaceous glands leading to an itchy red rash often accompanied by encrusted patches. Seborrhea typically occurs on the skin of the scalp, face, ears, chest, or genitals. Seborrheic dermatitis is associated with a *Pityrosporum* fungus.

secondary infection

infection with a second or subsequent infectious organism during the course of an initial infection with another organism.

secondary prophylaxis

preventive treatment for a subsequent occurrence (relapse) of a disease.

second-line treatment

the second preferred therapy for a particular condition used when the patient fails or cannot tolerate the side effects of first-line treatment. In HIV, second-line treatment depends on the first-line treatment used, tolerability, availability of drugs, and an individualized decision between the doctor and the patient.

secretory leukocyte protease inhibitor (SLPI)

a protein found in saliva that binds to white blood cells and blocks HIV infection.

sedative

a drug that reduces mental activity and excitement.

Selzentry

entry inhibitor, a CCR5 antagonist, brand name, maraviroc, from Pfizer

sensitivity

the ability of an organism to be affected by a drug or other agent (eg, a virus is sensitive to AZT if AZT is able to prevent viral replication).

Sensitivity also refers to a statistical measure of the accuracy of a screening test, ie, how likely a test is to label as positive those who have a disease or condition. Contrast with specificity.

sensory ganglion (plural ganglia)

a cluster of nerve cells that connect the sensory periphery (skin, mucous membranes, muscle tissues, tendons, blood vessel walls, internal organ tissue) with the central nervous system.

sensory neuropathy

damage or necrosis of the sensory nerves, resulting in numbness, tingling, or pain in the extremities. Sensory neuropathy is distinguishable from motor neuropathy, which may result in weakness and/or loss of motor coordination.

septic arthritis

infection in a joint.

septicemia, septic shock, sepsis

the physiological response to the presence of bacteria in the blood.

Symptoms include increased cardiac and respiratory rates, a sudden drop in blood pressure, and fluctuations in body temperature.

seroconversion

the development of antibodies against a microorganism; the change in a person's antibody status from negative to positive.

serology (adjective: serologic)

the branch of medicine concerned with serum, the clear fluid portion of blood; also refers to tests that measure components in the serum, including antibodies and antigens.

seronegative

having a blood test that does not indicate infection with a microorganism (eg, HIV), either by the presence of antibodies or antigen.

Seropositive, HIV+

having a blood test result which indicates infection with an organism (eg, HIV). A test may detect either antibodies to an organism (antibody positive) or the organism or its proteins (antigen positive).

seroprevalence

the rate of HIV-infected individuals in a given population as measured by blood antibody tests, that is, the number of infected individuals divided by the total number in the population.

serostatus

the presence or absence of an organism in the blood. Serostatus may be measured by the presence of antibodies against an organism (antibody status) or by the presence of the organism itself (antigen status).

serotonin
a neurotransmitter that has many effects, including blood vessel constriction and smooth muscle stimulation.

serum
the fluid, non-cellular portion of blood that remains after coagulation; lymphatic fluid.

severe combined immunodeficiency (SCID)
a condition, often genetic, in which more than one component of the immune system is compromised or dysfunctional, leaving an individual prone to a range of opportunistic illnesses and cancers.

sexually transmitted disease (STD, venereal disease)
a disease (eg, gonorrhea, syphilis, chlamydia) transmitted through sexual contact.

shedding
release of infectious particles (eg, bacteria, viruses) into the environment, for example by sneezing, by fecal excretion, or from an open lesion.

shigellosis
infection caused by Shigella bacteria. Shigellosis can cause digestive disturbances ranging from mild diarrhea to severe dysentery.

shingles
a viral infection -- called herpes zoster by doctors -- consists of painful blisters on the skin that follow nerve pathways.

shock
a condition characterized by the depression of mental and physical functioning, for example due to an injury or an allergic reaction.

side effect
an adverse reaction to a medication;. Many of the drugs used to fight HIV disease cause adverse reactions in some people. Some side effects are minor and others go away after a few days. A few are more difficult and require quick medical attention.

sigmoid
an S-shaped bend in the colon near the rectum.

sigmoidoscopy
examination of the sigmoid colon (the lower transverse part of the colon) with a lighted flexible viewing tube. See also proctoscopy.

simian immunodeficiency virus (SIV)
a viral infection endemic to African green monkeys and able to infect various primates. SIV is similar to HIV-2.

sinus
a hollow cavity. See also paranasal sinuses.

sinusitis
acute or chronic inflammation or infection of the paranasal sinuses (cavities behind the forehead and cheekbones), which may be

characterized by nasal congestion and discharge, fever, and headache and may be caused by bacteria, viruses, or fungi, or may be allergy-related. Treatment includes decongestants, antibiotics, and surgical drainage.

sodium

a trace element that is essential to many bodily processes including neural transmission.

soluble

capable of being dissolved.

soluble CD4

a recombinant molecule that is analogous to a small portion of the CD4 molecule. Soluble CD4 binds with the HIV gp120 protein and renders it incapable of binding to and infecting cells with the CD4 receptor.

somatostatin, Octreotide Acetate, Sandostatin

a pituitary hormone that inhibits the production of growth hormone and is used to treat diarrhea.

spasticity

a condition characterized by increased muscle tone, exaggerated reflexes and increased resistance to passive movement.

specific immunity

immunity directed against specific antigens. There are two types, TH1 or cellular and TH2 or humoral (antibody-based) immunity. Contrast with non-specific immunity.

specificity

a statistical measure of the accuracy of a screening test, ie, how likely a test is to label as negative those who do not have a disease or condition. Contrast with sensitivity.

speculum

an instrument used to enlarge the opening of a canal or cavity (eg, vagina, rectum, ear) in order to facilitate examination.

spermicide

an agent that immobilizes or kills spermatozoa; spermicides are also often used to kill HIV and other organisms.

sphincter

a muscle that controls the opening of a duct or orifice (eg, anal sphincter).

spinal tap

see lumbar puncture.

spleen (adjective: splenic)

an organ of the lymphoid system located in the abdominal cavity. The spleen is a blood-producing organ in children, and stores and disposes of red blood cells and platelets throughout life. The spleen is a reservoir for macrophages and is an important part of the immune system.

splenectomy

surgical removal of the spleen, which may leave the patient with a compromised immune system. Splenectomy may be performed to treat thrombocytopenia (low platelet levels).

splenomegaly
enlargement of the spleen.

Sporanox®
itraconazole.

spore
an early, latent reproductive stage of plants, fungi, and some microorganisms.

sporotrichosis
infection with *Sporothrix schenckii*, a diffuse cutaneous disease seen in immunocompromised people.

sputum stain (sputum smear)
a diagnostic test (eg, for tuberculosis) that uses mucus from the bronchial tubes.

squamo-columnar junction
the site where squamous cells lining mucous membranes meet columnar cells (eg, on the uterine cervix). Such an area is a common site for dysplasia.

squamous cell
a flat, thin cell that comprises the surface of the skin and the linings of the esophagus, vagina and rectum.

squamous intraepithelial lesion (SIL)
abnormal growth of squamous cells. SIL particularly refers to abnormal cell changes at the squamo-columnar junction of the uterine cervix. Low-grade SIL is considered a precancerous condition. See also cervical intraepithelial neoplasia.

standard deviation
a statistical measure of variance. Ninety-five percent of a range of values lie within 2 standard deviations of a mean value.

standard of care
the level of care which all persons with a particular illness should receive; the level below which care would be considered substandard.

standard therapy
a therapy that is FDA-approved for a specific condition and is widely used as first-line treatment for that condition.

Staphylococcus
a common type of bacteria that cause various infections, especially on the skin. *Staphylococcus aureus* is commonly present on the skin and mucous membranes, especially those of the nose and mouth; it can cause pus-containing lesions such as boils, carbuncles and abscesses. Strains are associated with food poisoning and toxic shock syndrome. Drug-resistant strains are often referred to as MRSA, "methicillin resistant *Staph aureus*

statistical significance
the probability that an observed outcome of an experiment or trial is due to chance alone. In general, a result of a clinical trial is considered statistically significant if there is a less than 5% probability that the difference observed

would occur by chance alone if the treatments being compared were equally effective (eg, a p-value of less than 0.05).

STD

sexually transmitted disease.

stem cell

a precursor cell from which blood cells are derived. As they mature, stem cells evolve into various types of red and white blood cells and platelets. Stem cells are located in the bone marrow, the site of blood cell production. Stem cells divide rapidly and are vulnerable to chemotherapy and radiation.

stenosis

narrowing or tightening of an opening or passage in the body.

steroid

a natural occurring compound (fat-soluble and having a 17-carbon-atom ring as a basis), including many hormones and vitamin precursors. In lay use, "steroid" often refers to anabolic steroids used by athletes. In Medical informal use, "steroid" usually refers to corticosteroids, related compounds used to suppress inflammation

Stevens-Johnson syndrome

an unusual, severe reaction characterized by blistering and sloughing of the mucous membranes; the visceral organs may also be involved, and the condition can be fatal. The syndrome may result from the use of certain medications such as TMP-SMX and NVP.

stomatitis

a swelling of the throat. This is an adverse reaction to some drugs.

strain

a specific genetic variant of a particular organism. Many microorganisms have stronger and weaker strains, drug-sensitive and drug-resistant strains, etc. See also subtype.

streptomycin

an antibiotic used in combination therapy for tuberculosis and other infections. Side effects include nausea, dizziness, kidney toxicity, and hearing loss.

subcortical

pertaining to structures in the interior of the brain. Subcortical dementia is a loss of mental, physical, and/or emotional function due to organic disease of the brain's deep structures.

subcutaneous (SQ)

an drug injection given just under the skin.

subgroup analysis

the selection of a smaller group (eg, based on demographic characteristics, clinical status) out of a larger study for further analysis.

sublingual

under the tongue.

subtype (clade)

a phylogenetically distinct strain of a microorganism. There are at least 11 subtypes of HIV-1 classified into 2 groups: group M (containing subtypes A through J) and group O. Subtype B is predominant in the U.S. There are 5 known subtypes of HIV-2 (A-E). See also strain.

sulfa drug (sulfonamide)

a class of sulfur-containing antibiotic drugs (eg, sulfadiazine), which cause sensitivity or adverse reactions in many people.

superantigen

a viral or bacterial antigen that triggers an immune response from a large number of immune cells (eg, T-cells) which express a variety of different major histocompatibility (MHC) molecules.

superoxide dismutase

a naturally occurring cellular antioxidant that is part of the mechanism by which immune system cells kill or deactivate invading microorganisms.

suppository

a tablet or troche that is inserted into the rectum or vagina.

suppression

the cessation of detectable viral replication in a person's blood.

surrogate markers

evidence of a condition. The most common HIV tests look for HIV antibodies instead of the actual virus. Those antibodies (or footprints) indicate the virus is present. Surrogate markers for HIV disease may be virologic (eg, viral load), immunologic (eg, CD4 cell count), or clinical (eg, weight loss). Surrogate markers are used when they are easier to find than the actual organism.

susceptible

vulnerable to or potentially able to contract a disease. Also refers to a microorganism that is vulnerable to the effects of a drug. Contrast with resistant.

suspension

a solution; a substance dissolved in a liquid.

Sustiva®

see efavirenz.

symptom (adjective symptomatic)

any perceptible change in the anatomy or function of the body that indicates the presence of a disease or condition.

synapse

a small gap between neurons or between neurons and effector cells (eg, muscle cells) where neural transmission takes places. Typically, a neurotransmitter is released into the gap (synapse) by a neuron and taken up by cells on the other side.

syncytium (plural: syncytia)

a mass or clump of cells that fuse together to form one giant cell. In HIV infection syncytium formation may lead to direct cell-to-cell infection. Strains of HIV are classified as either syncytium-inducing (SI) or non-

syncytium-inducing (NSI). SI strains tend to infect T-cells, whereas NSI strains tend to infect macrophages.

synergism, synergy

the action of two or more substances to create an effect that none of the individual substances are capable of. For example, two drugs have synergism when one of the drugs makes the other drug more effective.

syngenic

refers to a transfer of blood or tissues from an individual with the same genotype (ie, an identical twin). Contrast with allogenic.

syphilis

an STD caused by the spirochete bacterium *Treponema pallidum*. Stages of syphilis are primary (a nonpainful chancre in the mouth or anogenital area), secondary (a generalized rash, including the palms and soles, which occurs several weeks to a year later), a dormant stage in which the spirochetes spread in the body without causing symptoms, and tertiary (which may affect many organs including the brain, leading to dementia [neurosyphilis] and death). In immunocompromised persons, syphilis may progress more rapidly and be resistant to treatment. Penicillin is the usual treatment.

systemic

affecting the whole body. Contrast with localized.

systemic lupus erythematosus

an autoimmune disease of unknown cause characterized by swelling in many parts of the body, leading to blood vessel disorders, skin lesions, arthritis, nerve dysfunction, and kidney dysfunction.

I

T cells

White blood cells that play an important part in the immune system. There are three different types of T cells, each of which has different subsets. The commonly measured T cells are helper T cells, killer T cells, and suppressor T cells.

T4 cell

CD4 cell.

T8 cell

CD8 cell.

T-20, Fuzeon®

fusion inhibitor

tachycardia

very rapid heartbeat.

Tagamet ®

cimetidine.

tat

transactivator of transcription, a gene of HIV that plays a role in viral replication by regulating the transcription of viral DNA into RNA; also the protein produced by that gene.

tat inhibitor

a drug that inhibits HIV replication by interfering with the tat protein.

TB

tuberculosis, a bacterial infection. an infectious disease caused by *Mycobacterium tuberculosis* that typically affects the lungs, but may also occur in other organs (extrapulmonary TB). Transmission generally occurs through inhalation of aerosolized sputum droplets. A combination of 4 chemotherapeutic drugs is standard therapy. Multidrug-resistant tuberculosis (MDR-TB) is resistant to at least 2 standard drugs and requires more aggressive treatment. Extremely-resistant TB has recently been defined as resistance to at least 4 drugs.

T-cell, t-lymphocyte

a white blood cell derived from the thymus that contributes to the cell-mediated immune response. There are 3 major types of T-cells: T-helper (CD4 cells), T-suppressor (CD8 cells) and T-killer (cytotoxic T-lymphocytes or CTL).

TDF, tenofovir disoproxil fumarate, Viread®

a nucleotide reverse transcriptase inhibitor approved for HIV treatment in combination with other anti-HIV drugs. A component of Truvada® and Atripla®.

TCID₅₀

50% tissue culture infective dose. The level of dilution of a virus at which half of a series of laboratory wells contain active, growing virus.

telomere

a complex of repetitive DNA sequences that cap the ends of chromosomes. Telomeres play a role in cellular replication via the telomerase enzyme, which helps determine whether cells are able to replicate. Telomeres shorten each time a cell divides, and signal cell senescence (loss of function) when they reach a critical length.

testosterone

a steroid hormone produced by the testes and adrenal glands. Testosterone is required for sperm production, the development of the male reproductive organs, and the emergence of male secondary sexual characteristics. The hormone is also required for the buildup of lean muscle mass. Testosterone levels are often low in HIV + men; the hormone is under study as a therapy for wasting syndrome. Possible side effects include acne, mood swings, change in sex drive, liver toxicity, prostate enlargement and masculinization in women.

tetracycline, Achromycin®, Sumycin®

a broad spectrum antibiotic drug used to treat bacterial infections.

TH1 immune response

one of the branches of the immune system. The TH1 response involves a subset of CD4 lymphocytes called TH1 cells that secrete IL-1, IL-2 and

gamma interferon, and which enhance the cell-mediated immune response (action of CTL and natural killer cells) and inhibit TH2 cell activity and the humoral immune response. TH1 activity is especially effective against agents that have infected cells (eg cell-associated HIV).

TH2 immune response

one of the branches of the immune system. The TH2 response involves the TH2 subset of CD4 cells that secrete IL-4 and IL-10, and which enhance humoral immune response (antibody production) and inhibit TH1 activity and cell-mediated immune response. TH2 activity is most effective against microorganisms that are free-floating in the bloodstream (eg, cell-free HIV).

thalamus

one of the basal ganglia (a cluster of nerve cell bodies) deep in the brain that serves as a center for the relay of sensory information (especially pain and pleasure information) and plays a role in arousal.

T-helper cell, T4 cell, CD4 cell

A subset of T cells. Physicians regularly measure T- cell counts in HIV + people. The amount of T-cells one has defines the stage of HIV disease you have and helps in deciding when to start treatment.

therapeutic vaccine, treatment vaccine

a vaccine given after infection to reduce or arrest disease progression. Therapeutic vaccines are given to produce or reinforce an immune response in a person who is already infected. Contrast with preventive vaccine.

therapeutic window

the difference between the minimum (clinical efficacy) and maximum (excessive adverse events) effective doses.

thrombocyte (platelet)

a type of blood cell that facilitates normal blood clotting.

thrombocytopenia

an abnormally low number of thrombocytes (platelets); the condition may result in abnormal bleeding and bruising. The normal platelet range is 150,000-300,000 per millimeter of blood. Thrombocytopenia may be controlled by the administration of certain cytokines or by removal of the spleen.

thrombosis

formation or presence of a clot within a blood vessel.

thrush

candidiasis.

thymic factor (thymic hormone)

a hormone or cytokine (eg, thymodulin, thymopentin, thymostimulin) produced by the thymus gland that is involved in the regulation of immune function.

thymidine kinase

an enzyme that catalyzes the transfer of phosphate groups and is necessary for the transformation and metabolism of nucleoside analog drugs.

thymine (t)

one of the pyrimidine nucleic acid bases that make up nucleotides, the building blocks of DNA (but not RNA). The antiviral drugs AZT and d4T are nucleoside analogs associated with thymine.

thymus (adjective: thymic)

a lymphoid organ located in the chest behind the sternum. The thymus is a source of T-lymphocytes in children, but generally shrinks during adolescence. The thymus is the site of T-lymphocyte differentiation, where the cells learn to recognize antigens. The thymus produces some 30 hormones or thymic factors (eg, thymodulin, thymopentin, thymostimulin) that are involved in the regulation of immune function.

thyroid gland

an organ at base of the neck that produces thyroxin and other hormones.

thyroid stimulating hormone (TSH)

a pituitary hormone which stimulates the growth and function of the thyroid gland.

TIBO derivative

a synthetic compound derived from molecules similar to valium and related tranquilizers. TIBO derivatives have been shown to have potent anti-HIV-1 activity by blocking the production of reverse transcriptase.

tine test

a skin test superseded by the more accurate PPD test for TB.

tinnitus

an abnormal ringing or buzzing in the ears. Tinnitus may be a side effect of certain medications.

titer (titre)

a standard measure of the strength or concentration of a component per volume of a solution.

titration

the measurement of volume; often used to refer to the determination of a drug dosage.

T-killer cell, cytotoxic T cells

a type of white-blood cell that kills foreign organisms after being activated by T-helper cells.

TNF, tumor necrosis factor, cachectin

a cytokine, produced by activated monocytes and macrophages, that can destroy tumors. When chronically elevated (as may occur in HIV disease), TNF-alpha may lead to fever, anorexia, hypermetabolism and wasting. TNF-alpha may block the production of enzymes that digest fats, leading to the breakdown of muscle tissue. In laboratory tests TNF-alpha has been shown to stimulate HIV replication. Some drugs (eg, thalidomide, ketotifen) reduce TNF-alpha levels. TNF-beta is produced by activated T and B lymphocytes.

tolerance

a condition in which the body becomes accustomed to an agent (eg, drug) so that the previous dose no longer produces the desired effects and a progressively larger dose is needed to achieve a previously observed effect. See also cross-tolerance.

topical

pertaining to the surface of the skin; a medication applied to the skin.

toxicity (adjective: toxic)

the quality of being poisonous or harmful; often refers to side effects of drugs.

toxicology

the study of the harmful effects of substances on the body, including the level of toxicity, the mechanism by which toxicity occurs and how it can be controlled.

toxicosis

a pathological condition resulting from poisoning.

toxin

a harmful or poisonous agent.

toxoplasmosis (toxo)

an opportunistic infection caused by the microscopic protozoan *Toxoplasma gondii*, found in undercooked meat and cat feces. Symptoms may include headache, lymphadenopathy, malaise, muscle pain and fever. A common manifestation of the disease toxoplasmic encephalitis (cerebral toxoplasmosis), characterized by brain swelling, dementia, confusion, lethargy, seizures and coma; the eyes, heart and lungs may also be affected. Toxoplasmosis is treated with pyrimethamine, usually in combination with other drugs; TMP-SMX may be used as prophylaxis; an AIDS-defining condition.

trace element

a substance needed in very small amounts for the proper functioning of the body. There are 7 known trace elements: chromium, copper, cobalt, iodine, iron, selenium and zinc.

trachea

the windpipe; the tube that extends from the oral cavity into the chest, where it branches into the 2 major bronchial tubes.

tract

an organ system that allows the body to interact with the outside world (eg, gastrointestinal tract, respiratory tract); also a bundle of nerve fibers (eg, extrapyramidal tract).

transcription

the first step in protein synthesis and replication. Genetic information encoded in DNA is copied to messenger RNA, which is used as a template for the production of new proteins.

transcutaneous (transdermal)

able to be absorbed by or to pass through intact skin; administered through the skin.

transdominant mutant

genetically engineered, non-functional copies of HIV viral proteins that compete with functional HIV for the various molecules needed for viral replication.

transduced autologous fibroblasts (taf)

a type of gene therapy for HIV disease. Fibroblasts (collagen-producing cells) are removed from the body, genetically altered and reinfused into the body in an attempt to enhance the anti-HIV immune response.

transduction

the introduction of a transferred gene into a cell via genetic engineering techniques (eg, a virus vector, liposomes).

transformation zone

the area of the cervix where squamous cells and columnar cells meet; a common site of dysplasia.

transgenic

pertaining to a chromosome or an organism into which genes from another individual have been inserted.

treatment arm

a group of participants in a research trial who all receive the same experimental treatment. Contrast with the control arm.

treponema pallidum

the spiral-shaped bacteria that causes syphilis.

triazole

anazole drug.

trichomoniasis

infection with the protozoan parasite *Trichomonas vaginalis*.

Trichomoniasis may be asymptomatic, especially in men; in women symptoms may include vaginal irritation, itching, discharge and painful urination.

triglycerides

fat in the blood. A high triglyceride blood test can indicate liver or pancreas problems. A low result can indicate malnutrition.

trimetrexate, Neutrexin®

an antifolate drug used as salvage therapy for people with PCP who fail standard treatments. Trimetrexate can cause severe bone marrow toxicity, and is typically used in conjunction with leucovorin to protect against anemia.

Trizivir®

combination nucleoside analogue abacavirsulfate (ABC) + lamivudine (3TC) + zidovudine (AZT) tablet, not recommended for treatment without a fourth component.

tropism

affinity for or the tendency to move toward something; the specific attraction of a virus or other microorganism to a particular host tissue, determined in part by host cell surface markers (eg, some HIV strains have

a tropism for CD4 cells with CCR5 co-receptors vs CXCR4 receptors vs both – dual/mixed).

trough level, C_{min}

the lowest concentration of a drug reached in the body between dosages.

Truvada®

An NRTI combination tablet of Tenofovir + emtricitabine

T-suppressor cell

a type of T-cell bearing the CD8 surface marker. T-suppressor cells helps to regulate and control immune system activity by inhibiting antibody production and CTL activity.

tubercle

a granulomatous, spherical lesion containing a concentration of white blood cells, characteristic of infection with Mycobacterium tuberculosis.

tuberculin skin test

a skin test for exposure to tuberculosis. See PPD test.

tubo-ovarian abscess

a inflammation of the a fallopian tube and the companion ovary, characterized by swelling and accumulation of pus.

tumor

a neoplasm; a new growth of rapidly proliferating cells. Tumors may be either benign or malignant (cancerous).

U

ulcer, ulceration

an open sore of the skin or mucus membrane characterized by sloughing of inflamed dead tissue.

ultrasonography, ultrasound

a method of visualizing the internal parts of the body, or a fetus within the uterus, using sound waves.

ultraviolet (UV)

electromagnetic radiation beyond the violet end of the visible light spectrum. UV radiation induces tanning and sunburn of the skin, and is associated with the development of skin cancer. UV is used to kill Mycobacterium tuberculosis in hospitals.

upregulation

an increase in the rate at which a process occurs, a substance is released, etc.

uracil (u)

one of the pyrimidine nucleic acid bases that make up nucleotides, the building blocks of genetic material. Uracil takes the place of thymine (T) in RNA.

ureaplasma

a type of gram-negative bacteria found in the human genitourinary tract, throat and/or rectum. Ureaplasma may be sexually transmitted and is a cause of nongonococcal urethritis. Left untreated infection can lead to inflammation of the prostate in men and pelvic inflammatory disease in women.

urethra

the canal that carries urine from the bladder to the outside of the body.

urethritis

inflammation of the urethra.

uric acid

a substance found in the blood and urine that is a by-product of protein metabolism.

urticaria

itchy, raised, swollen areas on the skin or mucous membranes, often a manifestation of an allergic reaction. (hives)

uterus

the muscular pelvic organ of the female reproductive system in which the fetus develops. (syn. womb)

uveitis

an inflammation of the membranes (uvea) of the eye. Anterior uveitis is an inflammation of the frontal membranes (eg, the iris and the choroid). The condition is characterized by pain and redness.

V

V3 loop

A part of the HIV gp120 surface protein that appears to be important in stimulating neutralizing antibodies.

vaccine

a preparation that contains an infectious agent or its components which is administered to stimulate an immune response that will protect a person from illness due to that agent. A therapeutic (treatment) vaccine is given after infection to reduce or arrest disease progression. A preventive (prophylactic) vaccine is to prevent infection. Agents used in vaccines may be whole-killed (inactive), live-attenuated (weakened), or artificially manufactured.

vaccinia

a virus used as a vaccine against smallpox. Vaccinia is used as a live virus vector in some candidate anti-HIV vaccines.

vagina

the passage from the uterus to the outside of the body, part of the female reproductive system; the birth canal.

vaginal candidiasis

infection of the vagina and/or vulva with a yeast-like fungus, typically *Candida albicans*. Symptoms include pain, itching, redness, and a white

discharge. It is more common and more difficult to treat in HIV-positive women; recurrent episodes may be an early sign of HIV infection. (vulvovaginal candidiasis, "yeast infection")

vaginitis

inflammation of the vagina, often characterized by redness, irritation, itching, and discharge and may be caused by bacteria, Candida, hormonal changes.

valacyclovir, Valtrex®

a prodrug of acyclovir used as an antiherpes treatment. Valacyclovir has significantly greater bioavailability than acyclovir, and thus is effective at lower doses.

varicella-zoster virus, VZV, human herpes virus 3

a herpes virus that initially causes chickenpox (varicella), usually in children. VZV may lie dormant within the nerves for years and reactivate later to cause herpes zoster (shingles), especially in immunosuppressed individuals.

vascular hyperplasia

excessive growth of the cells that form blood vessels, causing clusters of incomplete vessels in the skin or internal organs.

vasculitis

inflammation of the blood vessels.

vasodilation

dilation of the blood vessels.

VaxSyn

a candidate anti-HIV vaccine based on the gp160 protein.

vector

an agent used as a vehicle for transfer. A disease vector is an agent that transfers a pathogen from one organism to another (eg, an insect). A viral vector is an engineered virus used to introduce genes into cells, or a live virus used as an antigen delivery vehicle in a vaccine.

ventricle

a partition, sac or cavity (eg, the fluid-filled spaces in the center of the brain, the chambers of the heart).

vif

a gene of HIV; also the protein produced by that gene.

vinblastine, Velban®

a chemotherapeutic drug used to treat various malignancies including Kaposi's sarcoma. Side effects include bone marrow suppression.

vincristine, Oncovin®

a chemotherapeutic drug used to treat various neoplastic (cancerous) conditions including Kaposi's sarcoma and lymphoma. Side effects include peripheral neuropathy.

viral load, viral burden

a group of tests that measure the amount of HIV in the blood. The two most commonly used viral load methods are PCR and bDNA.

viral turnover

the rate at which a virus dies and is regenerated.

viremia
the presence of virus in the blood.

virion
a complete virus particle that exists outside of a host cell.

virology
the study of viruses and diseases caused by viruses.

virucide
a substance that can kill or destroy viruses. Contrast with virustatic.

virulence
aggressiveness, ability to cause disease. (adjective virulent)

virus
a submicroscopic organism that can replicate only when it is inside another cell.

virustatic
a substance that has the ability to inhibit growth and/or reproduction of viruses without killing them. Contrast with virucide.

viscera
the major internal organs of the body, eg, intestines, liver. (adjective: visceral)

visceral fat
The fat tissues that are found normally lining the organs in the abdominal cavity, liver, colon, pancreas, kidneys, where it serves a function of insulation, shock absorption, and fat storage. These fat deposits may be prominent in people with HIV and lipodystrophy. Increased visceral fat may be associated with insulin resistance and increased risk of cardiovascular disease.

vitamin
an organic substance that acts as a coenzyme and/or regulator of metabolic processes. Most of the 13 known vitamins present in foods or supplements; some are produced within the body.

vitamin A
a fat-soluble vitamin with antioxidant properties essential for proper immune system functioning including lymphocyte development and maturation. Vitamin A deficiency is associated with impaired mucosal immunity and increased risk of vertical transmission of HIV. Excess vitamin A may be toxic to the liver. The vitamin is synthesized from beta carotene within the body.

vitamin B
a complex of several important vitamins including B1 (thiamin), B2 (riboflavin), B6 (pyridoxine), B12 (cobalamin). Vitamin B1 is needed for nerve signal transmission; deficiency may lead to neuropathy. Vitamin B2 is needed for the metabolism of amino acids; deficiency can result in eye and mouth pain and mental changes. Vitamin B6 is necessary for the production of many enzymes and chemical messengers (eg, neurotransmitters); deficiency is linked to neuropathy and mental

depression, skin rashes, nausea and seizures. Vitamin B12 is needed for red blood cell production and DNA synthesis and repair; deficiency may result in anemia, neurological dysfunction, neuropathy and changes in mental status.

vitamin C (ascorbic acid, ascorbate)

an antioxidant vitamin that protects cells from oxidative damage. Vitamin C is necessary for the production of collagen (eg, for wound healing), hormones and neurotransmitters; it may have a role in fighting infection. Deficiency results in poor healing, easy bruising and anemia.

vitamin D

a vitamin that is important for mineral metabolism and which may play a role in immune function. Vitamin D is manufactured within the skin when exposed to sunlight. Deficiency is uncommon, and may result in weak bones and kidney stones.

vitamin E, tocopherol

an antioxidant vitamin that protects cell membranes from oxidative damage. Deficiency is rare, and may lead to peripheral neuropathy, poor balance and reduced reflexes. Alpha tocopherol and gamma tocopherol are 2 forms of the vitamin.

vitamin K

a fat-soluble vitamin, available in foods and manufactured by intestinal bacteria, that is essential for blood coagulation and important in certain energy transfer reactions.

vitreous humor

a transparent, colorless mass of soft, gelatinous material that fills the back portion of the eye, from the lens in front to the retina in back.

vpr

a gene of HIV; also the protein produced by the VPR gene.

vpu

a gene of HIV; also the protein produced by that gene.

vulva

the external female genitalia, including the clitoris and the inner and outer labia surrounding the urethral and vaginal openings.

W

washout period

the time it takes for a drug to be cleared from the body.

wasting syndrome

severe weight loss, normally defined as a loss of more than 10% of body weight in 30 days; an AIDS-defining condition.

water soluble

capable of being dissolved in water; compounds are easily excreted by the body.

WBC

white blood cell. See leukocyte.

Western blot
a test used to determine HIV. It is a blot consisting of a sheet of cellulose containing spots of protein for identification by a molecular probe. This test looks for HIV antibodies -- a protein produced by the immune system as it tries to fight the HIV virus.

whitlow
an infection of the fingers caused by herpes simplex virus, usually the result of touching oral and/or genital lesions.

whole-killed virus
a complete inactivated virus is used to provoke an immune response.

WIHS
Women's Interagency HIV Study.

wild-type
the normal, typical phenotype of a virus or other organism before genetic mutation, manipulation or in vitro replication takes place.

withdrawal
a condition that results from the abrupt discontinuation of a dependency-inducing drug, characterized by symptoms such as sweating, tremors and nausea and pain.

World Health Organization (WHO)
an organization of the United Nations concerned with worldwide public health.

X

xenogenic, xenotransplant
refers to a graft or transplant from a foreign species, eg, baboon to human bone marrow transplant.

xerosis
dry skin.

xerostoma
dry mouth.

Y

yeast infection
vaginal candidiasis.