



Medicalbooks.com An official website of Medical Publications of America

Drug

Anti-infective Drugs books

Anti-infective drugs are classified as antibacterials, antivirals, or antifungals depending on the type of microorganism they combat. Anti-infective drugs interfere selectively with the functioning of a microorganism while leaving the human host unharmed.

Antibacterial drugs, or antibiotics-sulfa drugs, penicillins, cephalosporins, and many others-either kill bacteria directly or prevent them from multiplying so that the body's immune system can destroy invading bacteria. Antibacterial drugs act by interfering with some specific characteristics of bacteria. For example, they may destroy bacterial cell walls or interfere with the synthesis of bacterial proteins or deoxyribonucleic acid (DNA)-the chemical that carries the genetic material of an organism. Antibiotics often cure an infection completely. However, bacteria can spontaneously mutate, producing strains that are resistant to existing antibiotics. Antiviral drugs interfere with the life cycle of a virus by preventing its penetration into a host cell or by blocking the synthesis of new viruses. Antiviral drugs may cure, but often only suppress, viral infections; and flare-ups of an infection can occur after symptom-free periods. With some viruses, such as human immunodeficiency virus (HIV), which causes acquired immunodeficiency syndrome (AIDS), antiviral drugs can only prolong life, not cure the disease.

Vaccines are used as antiviral drugs against diseases such like mumps, measles, smallpox, poliomyelitis, and influenza. Vaccines are made from either live, weakened viruses or killed viruses, both of which are designed to stimulate the immune system to produce antibodies, proteins that attack foreign substances. These antibodies protect the body from future infections by viruses of the same type.

Antifungal drugs selectively destroy fungal cells by altering cell walls. The cells' contents leak out and the cells die. Antifungal drugs can cure, or may only suppress, a fungal infection.