reproduction of the HIV. The term *HIV* is also used to refer to the virus's presence in the body. When the virus grows stronger and lowers T4 cell levels significantly, the patient develops AIDS. At this point, the patient begins to suffer from many viral, bacterial, and fungal infections. Therefore, the key is to prevent or delay this development as long as possible with the use of antiretroviral medications. Because HIV mutates easily, it is imperative that patients with AIDS take several medications according to a specific regimen to fight the retrovirus, prevent its reproduction, and protect their own immune system. These medications are classified according to where in the RNA-to-DNA process they are effective and include the following: nucleoside reverse transcriptase inhibitors (NRTIs), nonnucleoside reverse transcriptase inhibitors (NNRTIs), protease inhibitors (PIs), fusion inhibitors, entry inhibitors, and HIV integrase strand transfer inhibitors. (The Master the Essentials table includes more detail on these medications.)

Antiparasitic Medications

Parasites are organisms that live on or in another organism (host) and that often cause diseases. Common parasitic diseases include malaria, ascariasis (roundworm infection), pediculosis (lice infestation), and scabies. Although some parasitic diseases (e.g., malaria) are not commonly contracted in North America because of the cooler climate, purified drinking water, and advanced septic systems, knowing the types of medications used to treat them is important because you may encounter a patient who, for instance, develops a parasitic disease after traveling abroad. The following classes of medications are used to treat parasitic infections and disease.

- Antimalarials: Antimalarial medications such as atovaquone/proguanil (Malarone), chloroquine (Aralen), mefloquine (Lariam), and primaquine are taken to prevent a patient from contracting malaria as well as to treat the disease. These medications work by inhibiting the growth of the malaria parasite in the red blood cells of the body. To prevent malaria, these medications should be combined with the use of personal protection, such as long sleeves and pants and insect repellent.
- Antiprotozoals: Protozoan microorganisms differ from bacteria and fungi in that they do not have a cell wall. Therefore, the antibiotics effective against bacteria have very little effect on protozoans. Medications such as metronidazole (Flagyl, Metro I.V.) and trimethoprim-sulfamethoxazole (Bactrim, Septra, Sulfatrim) are given orally or by the IV route to combat vaginal infections such as trichomonas, giardiasis (infection of the intestines), and *Pneumocystis carinii* (causes pulmonary disease). These medications disrupt the strands of DNA and thus prevent the reproduction of this infection. Metronidazole is also the drug of choice in giardiasis (infection of the intestines).
- Anthelmintics: Tapeworms, roundworms, and flukes are all treated with anthelmintics, which affect the nervous system of the worm and paralyze it or prevent the worm from absorbing glucose. Tapeworms do not enter the tissue of their host and are treated with albendazole (Albenza) and praziquantel (Biltricide) orally. Roundworms enter the tissue and thus are more difficult to kill. Ivermectin (Stromectol) is prescribed for the treatment of roundworms. Mebendazole (Vermox), pyrantel (Antiminth, Ascarel), and praziquantel (Biltricide) are given orally for the treatment of hookworms, whipworms, pinworms, and flukes.
- Pediculicides: Lice are parasites that live on the blood found on the body, scalp, and pubic area. Head lice spread easily among children who are in close proximity during play. Body lice is the only type known to spread disease, and this type is spread through close contact in crowded conditions, such as seen with homeless people. Pubic lice are spread through sexual contact. Treatment consists of shampoos and lotions that either attack the nervous system of the louse or suffocate them. These medications containing permethrin (Acticin, Elimite, and Nix), piperonyl butoxide/pyrethrins (Licide, RID), and spinosa (Natroba) can be purchased OTC without a prescription. Prescription lotions and shampoos include malathion (Ovide), benzyl alcohol lotion (Ulesfia), and lindane. All treatment for lice must include treatment of close contacts, as well as cleaning of bedding and any clothing or hair care items used on the patient.
- Scabicides: Scabies are caused by itch mites that burrow in the webbing of the fingers and toes, as well as the axillary area. They are spread by skin-to-skin contact, sometimes as brief as a handshake. Medication consists of topical pesticide lotions such as crotamiton (Eurax), lindane, and permethrin (Acticin, Elimite). It is again important to clean the bedding because the mite can live for a period when not on the body.