be able to produce an adequate inflammatory response to the infection and the usual clinical signs of infection may be partially expressed or absent, fever will occur. Therefore, monitor the temperature closely. To identify the source of infection, the health care team takes blood, stool, urine, and nasopharyngeal cultures and chest x-ray films.

Once infection is suspected, broad-spectrum IV antibiotic therapy is begun before the organism is identified and may be continued for 7 to 10 days. If the child does not have a venous access device, a peripheral IV should be inserted to prevent the inconvenience of multiple venipunctures in administering antibiotic therapy.

The organisms most lethal to these children are (1) viruses, particularly varicella (chickenpox), herpes zoster, herpes simplex, respiratory syncytial virus, influenza, cytomegalovirus ; (2) protozoan, *Toxoplasma gondii*; (3) fungi, especially *Pneumocystis jiroveci* (formally known as *carinii) or Candida albicans;* (4) gram-negative bacteria, such as *Pseudomonas aeruginosa, E. coli,* and *Klebsiella* organisms; and (5) gram-positive bacteria, especially *Staphylococcus* and *Enterococcus* species (Ardura and Koh, 2016). Prophylaxis against *Pneumocystis* pneumonia, such as trimethoprim-sulfamethoxazole, is routinely given to most children during treatment for cancer (Ardura and Koh, 2016).

Colony stimulating factors (CSFs), a family of glycoprotein hormones that regulate the reproduction, maturation, and function of blood cells, are now routinely used as supportive measures to prevent the side effects caused by low blood counts. CSFs promote stem cell proliferation and stimulate a more rapid maturation of the cells, allowing them to enter the bloodstream earlier. G-CSF (filgrastim [Neupogen], pegfilgrastim [Neulasta]) directs granulocyte development and can decrease the duration of neutropenia. This reduces the incidence and duration of infection in children receiving treatment for cancer. G-CSF is also being used to decrease the bone marrow recovery time after BMT (Ardura and Koh, 2016). Prevention of infection continues as a priority after discharge from the hospital. Some institutions allow the child to return to school when the ANC is above 500/mm^3. Other institutions place no restrictions on the child, regardless of the blood count. If the level falls below this value, cautious isolation from crowded areas, such as shopping centers or subways, is