

This quick view provides very brief information from the ONS PEP resources. Full ONS PEP information for this topic and description of the categories of evidence are located at <http://www.ons.org/Research/PEP/Topics> and Eaton, L.H., & Tipton, J.M. (Eds.), (2009), *Putting evidence into practice: Improving oncology patient outcomes*, Pittsburgh, PA: Oncology Nursing Society. **Users should refer to these resources for full dosages, references, and other essential information about the evidence.**

Definition and incidence: The *prevention of infection* in patients with cancer focuses on interventions to prevent infections related to neutropenia or other immune deficiencies related to malignancy or the treatment of malignancy. Many treatments for cancer are known to put patients at risk for significant infection, and the risk is associated with the degree of neutropenia and the length of the neutropenic period.

Evidence-Based Interventions for Prevention of Infection

RECOMMENDED FOR PRACTICE

- Hand hygiene
- Colony-stimulating factors for all patients with more than a 20% risk of febrile neutropenia
- Influenza vaccine annually
- 23-valent pneumococcal polysaccharide vaccine for patients older than five years old
- 7-valent pneumococcal polysaccharide protein-conjugate vaccine for patients younger than five years old
- Trimethoprim-sulfamethoxazole to prevent *Pneumocystis carinii* pneumonia
- Antifungal drugs with gastrointestinal absorption to prevent oral candidiasis
- Antifungal prophylaxis in high-risk patients
- Prophylaxis with quinolones for patients at high risk for infection
- Penicillin prophylaxis to prevent pneumococcal infection for asplenic patients, allogeneic hematopoietic stem cell transplant (HSCT) recipients, or patients with chronic graft-versus-host disease
- Herpes viral prophylaxis for selected seropositive patients
- Cytomegalovirus prophylaxis for patients at risk
- Lamivudine prophylaxis for immunocompromised patients with positive hepatitis B surface antigen
- Protective gowns for expected body fluid contamination
- No visitors with symptoms of respiratory infection
- Environmental interventions: Windows closed; negative-pressure rooms with anteroom for airborne infections for patients with airborne respiratory viruses (e.g., varicella, tuberculosis); high-efficiency particulate air (HEPA) filters
- Contact precautions with resistant organism colonization

LIKELY TO BE EFFECTIVE

- Private rooms
- Oxygen and respiratory care
- HEPA filters and HEPA-filter masks
- Ice handling, flower, plant, and animal encounter guidelines
- Preconstruction precautions

EFFECTIVENESS NOT ESTABLISHED

- Immune globulin for respiratory syncytial virus
- Protective isolation (except for allogeneic HSCT recipients)

EFFECTIVENESS UNLIKELY

- Low microbial diet for neutropenic patients
- Laminar air flow
- Routine donning of gowns upon entrance into a high-risk unit (e.g., HSCT unit)

NOT RECOMMENDED FOR PRACTICE

- Antifungal prophylaxis for neutropenic patients with solid tumors
- Itraconazole capsules
- Nonabsorbable topical antifungal drugs to prevent oral candidiasis
- Gram-positive prophylaxis and fluoroquinolone in combination for antibacterial prophylaxis in afebrile neutropenic patients with cancer
- Live attenuated vaccine