

## DEVELOPING EVIDENCE-BASED NURSING GUIDELINES FOR SEPSIS MANAGEMENT ON A BLOOD AND MARROW TRANSPLANT UNIT

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### **Clinical Issue:**

Sepsis and septic shock is an ever-present threat to the bone marrow transplant (BMT) population and carries a high mortality rate. Prior to this effort, the inpatient BMT unit did not have nursing guidelines for the early detection and management of patients with sepsis or septic shock. There was no existing hospital policy and procedure or formally developed standards for practice. It has been demonstrated that evidence-based standards improve patient outcomes.

### **Significance of the Problem:**

Bone marrow transplant recipients are at an especially high risk for developing sepsis and septic shock due to severe neutropenia in the immediate transplant period and the long-term use of immunosuppressive agents. Since January 2006 to the present, the BMT unit has hired twenty-five new nurses, ten of which were newly graduated RNs. Many of these nurses do not have the experience or clinical skills to recognize and manage septic patients. The BMT program continues to grow. Our rising unit census is projected to remain high in the future and patient acuity is also expected to increase. The overall goal of this project was to lower the incidence of sepsis and septic shock on a BMT unit by establishing evidence-based guidelines for sepsis management.

### **Methods:**

Preliminary unit-based guidelines were developed based on a thorough review of nursing and medical literature and an investigation of current nursing practices on the BMT unit. Feedback on preliminary work was solicited from nursing management, clinical nurse specialists, staff nurses, BMT physicians. Preliminary guidelines were revised based on feedback. Educational inservices for nursing staff on topics including sepsis and septic shock, fluid administration and appropriate use of dopamine, and sepsis case studies accompanied the introduction and implementation of the guidelines. For many staff nurses, adoption of the guidelines necessitated the acquisition of a new clinical skill, monitoring central venous pressure (CVP). Education was provided to assist RNs with this. The guidelines were incorporated into existing unit references and the educational program for new hire orientation.

### **Results:**

An outcome of this project was the creation of evidence-based guidelines for sepsis management. How successfully and to what extent the guidelines are adopted into nursing practice is yet to be seen. It is projected that a post-

assessment on E1 of nursing knowledge and standard practice related to sepsis management will demonstrate a higher level of competency than that which existed prior to guideline implementation. This program has the potential for broader applicability to medical-surgical units.

**References:**

Dellinger et. al. Surviving Sepsis Campaign: International guidelines for management of severe sepsis and septic shock: 2008. *Crit Care Med* 2008; 36:296-327.

Rivers et al. Early goal-directed therapy in the treatment of severe sepsis and septic shock. *N Engl J Med* 2008; 345:1368-1377.

Schmidt, G.A. and Mandel, J. Management of severe sepsis and septic shock in adults. *Up to Date*, 2007.