

■ CNE Article

# Using Simulation to Assess Chemotherapy Competency

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Simulation with lifelike mannequins is used in schools of nursing and hospital-based education as a method of teaching clinical content, enhancing clinical skills, applying theory to practice, and validating competency. It provides a safe learning environment to enhance nurses' clinical judgment and critical thinking skills in an increasingly complex care environment. Simulation can be used in the practice setting with experienced nurses to teach or reinforce complex information and allow the learner to practice without devastating consequences. Medical-surgical units in some institutions have dedicated beds for patients with cancer but may not be a full oncology unit. Evaluating chemotherapy and biotherapy competency is difficult when extensive time periods exist between chemotherapy administrations. One method for assessing annual chemotherapy competency is to use simulation.

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Cancer is a disease affecting people across the age continuum and is the second most common cause of death in the United States. Current statistics estimate that 1,660,290 people will be diagnosed with cancer and 580,350 people will die of cancer in 2013 (National Cancer Institute, 2013). Cancer causes one in four deaths, second only to heart disease. About 67% of those diagnosed with cancer will live five years (American Cancer Society, 2012). As baby boomers age, these percentages likely will continue to increase. Oncology care is being delivered across a variety of settings. Generalist medical-surgical nurses may care for patients admitted with cancer as either a primary or secondary diagnosis. The patient may be admitted for cancer treatment, side effects of cancer and cancer therapy, or for a non-cancer-related condition (Smith & Lichtveld, 2007).

A steady flow of patients with cancer requiring IV chemotherapy does not always occur in a medical-surgical unit; therefore, maintaining competency for a high-risk, low-volume patient population becomes an issue. This gap between administration of chemotherapy may cause nurses to feel incompetent or unsafe in administering, monitoring, and caring for this specialized population. They must be well versed in side-effect management and use the best evidence to manage and educate patients and families

regarding symptoms. This article describes the use of simulation to evaluate nurse competency for chemotherapy administration.

## Simulation in Education

Human patient simulation (HPS) is used in learning exercises that closely mimic real life in nursing and medical education and hospital practice. Simulation integrates adult learning theory into an interactive educational session (Kuhrik, Kuhrik, Rimkus, Tecu, & Woodhouse, 2008; Nehring & Lashley, 2009; Su & Juestel, 2010). Simulation, including virtual reality and low- and high-fidelity mannequins, was introduced into nursing education in the 1970s, with noted increase in use in the past 10 years (Nehring & Lashley, 2009). A systematic review of the literature from 2000–2010 found that simulation can be used to create a learning environment to support development of knowledge, skills, and attitudes. However, Norman (2012) noted that a lack of literature related to conveyance of these outcomes to the clinical setting. The International Nursing Association for Clinical Simulation and Learning (INACSL) developed the Nursing Skills and Clinical Judgment Model that incorporates specific concepts into simulation, including participant ability to use psychomotor skills, problem solving, use of clinical reasoning, and, at the