



# Nursing Care of Patients Undergoing Chemotherapy Desensitization: Part II

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Chemotherapy desensitization protocols are safe, but labor-intensive, processes that allow patients with cancer to receive medications even if they initially experienced severe hypersensitivity reactions. Part I of this column discussed the pathophysiology of hypersensitivity reactions and described the development of desensitization protocols in oncology settings. Part II incorporates the experiences of an academic medical center and provides a practical guide for the nursing care of patients undergoing chemotherapy desensitization.

## At a Glance

- Since the mid-2000s, studies have demonstrated the safety and efficacy of desensitization protocols in oncology settings.
- Desensitization protocols require extremely careful coordination among oncology nurses, oncologists, allergists, and pharmacists.
- Oncology nurses play central roles in educating patients and caregivers about desensitization, preparing emergency supplies, double-checking orders and dosages, and coordinating workflow.

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Several studies have demonstrated the safety and efficacy of desensitization protocols for patients with cancer who have experienced severe hypersensitivity reactions. Castells et al. (2008) reported the successful performance of more than 400 desensitization procedures involving four different chemotherapy agents. In that study, only 6% of patients experienced reactions that were worse than mild, and all pa-

tients eventually received the full dose of medication. Similarly, Brennan, Rodriguez Bouza, Hsu, Sloane, and Castells (2009) demonstrated the effectiveness of desensitization for patients who have experienced severe reactions to monoclonal antibodies.

The success of these protocols has permitted the widespread availability of the high-risk procedures. Since 2012, the University of California, Los Angeles

(UCLA) has used a protocol for systematic chemotherapy desensitization that was adapted from protocols reported in the literature. Since that time, more than 50 desensitization procedures have been completed. UCLA has performed chemotherapy desensitizations for many agents, including oxaliplatin (Eloxatin®), carboplatin (Paraplatin®), irinotecan (Camptosar®), and even oral agents, such as temozolomide (Temodar®) and lenalidomide (Revlimid®).

Each desensitization protocol is customized to the patient's specific dose of chemotherapy. Desensitization begins with the use of an extremely diluted solution of the suspected drug at a very slow infusion rate, and, as a patient tolerates that dose for a specified interval, the infusion rate is doubled. For patients who are at standard risk, the initial solution is 100 times less concentrated. For patients who are at high risk, the initial solution is 1,000 times less concentrated than the standard chemotherapy preparation.

The UCLA protocol consists of 12 or 16 steps, based on the use of either three or four solutions of a chemotherapeutic agent, respectively. The nurse must recognize the patient's level of risk when using this protocol. The clinical allergist uses the severity of the patient's initial hypersensitivity reaction, and, therefore, risk for another reaction, as the basis for deciding on the 12- or 16-step protocol. A patient at higher risk will undergo the 16-step, four-solution protocol, which starts with an initial concentration that is 1,000 times diluted. A patient with less risk can undergo the 12-step, three-solution protocol, which is initially 100 times diluted. A patient who has required the use of epinephrine (EpiPen®) is always considered to be at high risk. Additional risk factors