An undesirable complication related to the administration of antineoplastic therapy is extravasation of chemotherapy. Despite being rare, it causes high concern among nursing staff and patients because of the severe consequences it may have. The term extravasation includes the unnoticed leakage or escape of a chemotherapeutic agent from a vessel into the perivascular tissue, as well as the unintentional injection of a drug into surrounding healthy tissues (Sauerland, Engelking, Wickham, & Corbi, 2006; Schrijvers, 2007). Although establishing the real incidence of extravasation is difficult, available data point to a value that ranges from 0.1%–6.5% (Alfaro-Rubio et al., 2006; Ener, Meglathery, & Styler, 2004; Gonzalez, 2013). Typically, the diagnosis of an extravasation is mainly clinical. Patients have local pain, burning sensation, swelling, or erythema (Ener et al., 2004). Patients and nursing staff must be educated to detect extravasation. Changes in drug infusion rate and absence of blood return are signs that indicate that an extravasation may have happened.

Tissue damage after an extravasation develops by different mechanisms, according to the ability of the extravasated agent to bind to DNA (Ener et al., 2004; Schulmeister, 2007). Drugs that bind to DNA enter into cells and cause rapid direct cell death. Drugs that do not bind to DNA are easily metabolized in the tissue into inactive compounds. The degree of tissue injury is lower because they are rapidly neutralized.