



# Treatment-Related Diarrhea in Patients With Cancer

Colleen Shaw, MSN, ARNP, AOCNP®, and Loryn Taylor, RN, BSN

Diarrhea caused by chemotherapy or radiation in patients with cancer can cause dehydration, electrolyte imbalance, malnutrition, fluid depletion, and hospitalization. In severe cases, uncontrolled diarrhea can lead to therapy dose reductions or even death. Oncology professionals may simply assess for the absence or presence of diarrhea, rather than using a standard assessment tool; they also may lack awareness regarding availability of established assessment and treatment guidelines. However, use of treatment guidelines can lead to optimal prevention and management of treatment-induced diarrhea in patients with cancer. Oncology nurses play a key role in the identification and treatment of chemotherapy- and radiation therapy-induced diarrhea.

Colleen Shaw, MSN, ARNP, AOCNP®, is an advanced RN practitioner at Florida Cancer Specialists and Loryn Taylor, RN, BSN, is an RN at Tampa General Hospital, both in Tampa, FL. The authors take full responsibility for the content of the article. The authors did not receive honoraria for this work. No financial relationships relevant to the content of this article have been disclosed by the authors or editorial staff. Mention of specific products and opinions related to those products do not indicate or imply endorsement by the *Clinical Journal of Oncology Nursing* or the Oncology Nursing Society. Shaw can be reached at [csweens6@aol.com](mailto:csweens6@aol.com), with copy to editor at [CJONEditor@ons.org](mailto:CJONEditor@ons.org).

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One of the most common side effects of treatment in patients with cancer is chemotherapy- and radiation therapy-induced diarrhea (National Cancer Institute [NCI], 2009). Diarrhea is a debilitating condition that can cause dehydration, electrolyte imbalance, malnutrition, fluid depletion, hospitalization, and even death (Saltz, 2003). Depending on the severity of diarrhea, therapy dose reductions or discontinuation of treatment can occur, resulting in less-than-optimal treatment outcomes (Muehlbauer et al., 2009).

Chemotherapy causes damage to the intestinal mucosa, resulting in necrosis of the cells that line the intestine. Those necrotic, or dead, cells increase inflammation within the intestinal mucosa, causing decreased intestinal absorption and resultant diarrhea. In addition, abdominal radiation therapy causes increased intestinal motility (Yarbro, Wujcik, & Gobel, 2011).

Although the reported prevalence and severity of diarrhea vary greatly, some chemotherapeutic regimens are associated with diarrhea rates as high

as 50%–80% (Muehlbauer et al., 2009). Fluorouracil and irinotecan-based therapies have been reported to cause diarrhea in 80% of recipients, with 30% or more experiencing severe diarrhea (Arnold et al., 2005). According to the NCI (2010) Common Terminology Criteria for Adverse Events (CTCAE), more than half of patients receiving chemotherapy for colorectal cancer experience diarrhea, requiring reduction, delay, or discontinuation of therapy. Radiation-induced diarrhea is the most frequent acute toxic response for patients undergoing adjuvant or primary treatment for gastrointestinal, gynecologic, or genitourinary cancer (Kozelsky et al., 2003).

## Patient Assessment

The NCI CTCAE is widely accepted throughout the oncology community as the standard classification and severity grading scale for adverse events in cancer-related clinical trials and other oncology settings (NCI, 2009). The NCI CTCAE evaluate and grade diarrhea by number of

stools per day, incontinence, and increase in ostomy output as compared to baseline (NCI, 2009) (see Table 1). Although the NCI CTCAE provide a standard objective foundation for evaluating treatment-induced diarrhea, additional evaluation is warranted. A detailed assessment must include hydration status and dietary intake (Benson et al., 2004). A patient self-care log or diary describing the number and consistency of stools, dietary changes, medications used to manage the diarrhea, and associated symptoms such as fever and abdominal cramping can provide the oncology practitioner with additional information necessary for optimal treatment (O'Brien, Kaklamani, & Benson, 2005). Assessment of weight loss and reduced urine output provides important information regarding the severity of the effects of diarrhea (NCI, 2009).

Chemotherapy-induced diarrhea can be categorized as uncomplicated and complicated. Differentiating between the two categories assists in determining appropriate interventions. Uncomplicated diarrhea is defined as grade 1 or 2 toxicity without complicating signs or symptoms (Richardson & Dobish, 2007), which include moderate to severe cramping, nausea, vomiting, decreased performance status, fever, sepsis, neutropenia, bleeding, and dehydration (Cherny, 2008; Richardson & Dobish, 2007). All patients with severe (grade 3 or 4) diarrhea are considered complicated. Patients with mild to moderate diarrhea (grade 1 or 2) with one or more complicating factors also are considered complicated (Cherny, 2008; Richardson & Dobish, 2007).

## Nutritional Management

Dietary modifications commonly are implemented to stop or lessen the severity of cancer treatment-related diarrhea (Arbuckle, Huber, & Zacker, 2000). Each