

## JOURNAL CLUB

# Relative Dose Intensity: Improving Cancer Treatment and Outcomes

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This article has been chosen as being particularly suitable for reading and discussion in a Journal Club format. The following questions are posed to stimulate thoughtful critique and exchange of opinions, possibly leading to changes on your unit. Formulate your answers as you read the article.

1. Is this article research based? What level of evidence is presented?
2. What rate of dose delays or changes do our patients experience? Has this rate been determined systematically?
3. What are the common reasons among our patient population for dose delays or reductions?
4. How formal is our process for determining dose delays or reductions? Is the process protocol based? Is a written order required?
5. When providing patient education regarding chemotherapy, do we regularly discuss the importance of maintaining doses and schedules as strictly as possible with the patient and family?
6. What specific strategies can we implement to increase compliance with ideal dose and schedule requirements?

At the end of the session, take time to recap the discussion and make plans to follow through with suggested strategies.

**Purpose/Objectives:** To determine the incidence of and reasons for chemotherapy dose delays or reductions.

**Design:** A performance improvement initiative formed the basis for a prospective nursing research study.

**Setting:** A single institution in western Pennsylvania.

**Sample:** 204 patients scheduled for nonmyeloablative chemotherapy.

**Methods:** Data collection forms were completed by RNs and evaluated by an interdisciplinary team.

**Main Research Variables:** Rates of nonadherence to chemotherapy schedule or dosing and associated reasons.

**Findings:** The performance improvement initiative revealed evidence of nonadherence to chemotherapy schedule or dosing when patient-requested cancellations and physician-ordered dose delays and reductions were left unchallenged and medical and nursing staffs had limited knowledge of or interest in relative dose intensity. The ensuing nursing research study found that less than 51% and 78% of patients adhered to their schedule and dosage, respectively. Nonadherence primarily was attributed to canceled visits, suboptimal or nonuse of hematopoietic growth factors, and routine dose reductions. Subsequent educational initiatives targeting the interdisciplinary team and patients and their families focused on the importance of keeping scheduled visits and preventing versus managing pancytopenia. Adopting a telephone referral procedure and distributing a patient education sheet reduced patient cancellations by 50%. Various reasons for dose delays and reductions have surfaced, many of which are modifiable with educational efforts.

**Conclusions:** A knowledge deficit was found among patients and healthcare providers regarding the importance of adhering to chemotherapy orders.

**Implications for Nursing:** Evaluating patterns of chemotherapy administration and educating patients, nurses, and physicians will have an impact on relative dose intensity, potentially improving treatment outcomes.

### Key Points . . .

- ▶ Maintaining the relative dose intensity of chemotherapy is key to increasing overall survival and achieving long-term disease-free survival.
- ▶ The relative dose intensity is the percentage of the planned chemotherapeutic dose a patient receives over a given time period.
- ▶ Relative dose intensity is affected by patient visit cancellations, dose reductions, under- or nonuse of hematopoietic growth factors, and deviation from original chemotherapy orders.
- ▶ Educating interdisciplinary staff about the importance of relative dose intensity and educating patients about the need for adherence to scheduled treatment visits can increase relative dose intensity and minimize dose delays and reductions.

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