

## Dose-dense vs. dose-intense

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### **What is the difference between dose-dense and dose-intense chemotherapy?**

Dose-dense chemotherapy refers to a chemotherapy treatment plan where the interval between successive treatments is reduced when compared to a standard regimen. An example of this would be the BC Cancer protocol [BRAJACTG](#) (Neoadjuvant or Adjuvant Therapy for Breast Cancer using Dose Dense Therapy: Doxorubicin and Cyclophosphamide followed by Paclitaxel). The drugs given in this protocol are given in the same dose on a two week schedule rather than the standard three week treatment schedule of [BRAJACT](#). Various dose-dense treatment regimens are being investigated as a way to improve survival benefit. Dose-dense chemotherapy also implies that the overall length of the chemotherapy period is reduced. There is increased concern about toxicity with dose-dense chemotherapy regimens, including neutropenia, for which filgrastim (G-CSF) is considered.

It is not common to refer to dose-intense chemotherapy, but rather to refer to the dose intensity of chemotherapy. Dose intensity is defined as the amount of drug delivered per unit of time, expressed as mg/m<sup>2</sup>/week, regardless of the schedule or route of administration. This is simply a method of comparing total dose given over a period of time between or among treatment protocols. Specific calculations can be made that then describe the intended dose intensity, the dose intensity of a treatment protocol, or the actual dose intensity received by the patient of a specific treatment regimen. These descriptions are based on the calculation of relative dose intensity (RDI), which is the amount of drug delivered per unit of time relative to an arbitrarily chosen standard. A reduction in dose intensity may negatively impact patient survival, particularly in those with potentially curable malignancies. There may be some variation in how these definitions are interpreted and examples of studies referring to dose-intense chemotherapy can be found in the literature.