

Afternoon Chemotherapy

Women may be more vulnerable to the toxic effects of chemotherapy if they are treated in the morning.

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Receiving chemotherapy in the afternoon may lead to better response and fewer side effects—at least for women.

Researchers from the Korea Advanced Institute of Science and Technology compared outcomes among 210 patients with diffuse large B-cell lymphoma who received chemotherapy at around 8:30 a.m. or around 2:30 p.m. Among women, those treated in the morning had shorter overall survival and progression-free survival compared with those treated in the afternoon. What's more, women treated early in the day were more likely to develop neutropenia and infections that led to delayed or reduced drug doses. However, these associations were not seen for men.

The researchers also analyzed data from 14,000 healthy people to identify circadian variations in blood lab values. Women's white blood cell counts were lower in the morning and higher in the afternoon, indicating that cells were produced in the bone marrow earlier in the day. Men did not show as much variation over the course of the day. This suggests that women may be more vulnerable to the toxic effects of chemotherapy if they are treated in the morning, while blood cell production is underway.
