

# Fatigue related to radiotherapy may be caused by inflammation

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Patients who experience fatigue during radiotherapy for breast or prostate cancer may be reacting to activation of the proinflammatory cytokine network, a known inflammatory pathway, according to a report in *Clinical Cancer Research*, a journal of the American Association for Cancer Research.

Julie Bower, Ph.D., an associate professor in the Department of Psychology and Psychiatry at the University of California, Los Angeles, and colleagues, conducted an observational study among 28 patients with breast [cancer](#) and 20 patients with prostate cancer, all early stage. [Patients](#) completed questionnaires and provided blood samples so researchers could determine the level of proinflammatory markers.

As expected, there was a strong link between radiotherapy treatment and [fatigue](#). In a new finding, the researchers noted that increases in serum markers of cytokine activity, specifically IL-1 receptor antagonist and C-reactive protein, were also linked with fatigue.

"This study suggests that exposure to radiation is releasing these inflammatory cytokines and that may be contributing to fatigue," said Bower.

Scientists have been studying the role of inflammation in several diseases and have recently made breakthroughs about the link between inflammation and diseases like heart disease, Alzheimer's and cancer. There is growing evidence that inflammation may also contribute to

depression and other behavioral disturbances, including fatigue and [sleep problems](#).

Stephen Hahn, M.D., chair of the Department of [Radiation Oncology](#) at the Abramson Cancer Center at the University of Pennsylvania, said this study is an important step forward in understanding the biological basis for fatigue.

"Fatigue related to radiotherapy is very common but we do not have any good idea about why it occurs. This suggests one possible mechanism and suggests an avenue for treatment," said Hahn, who is also an editorial board member of *Clinical Cancer Research*.

Source: American Association for Cancer Research ([news](#) : [web](#))

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