

High-fiber diet, low level inflammation: Sidestepping the effects of radiation

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Loved or hated, the humble oat could be the new superfood for cancer patients as international research shows a diet rich in fiber could significantly reduce radiation-induced gut inflammation.

Conducted by the University of Gothenburg, Lund University and the University of South Australia, the [preclinical study](#) found that dietary oat bran can offset chronic gastrointestinal damage caused by radiotherapy, contradicting long-held clinical recommendations.

Gastroenterology and oncology researcher UniSA's Dr. Andrea Stringer says the research provides critical new insights for radiology patients.

"Cancer patients are often advised to follow a restricted fiber diet. This is because a diet high in fiber is believed to exacerbate bloating and diarrhea—both common side effects of radiotherapy," Dr. Stringer says.

"Yet, this advice is not unequivocally evidence-based, with insufficient fiber potentially being counterproductive and exacerbating gastrointestinal toxicity. Our study compared the effects of high-fiber and no-fiber diets, finding that a fiber-free diet is actually worse for subjects undergoing radiotherapy treatment. A diet without fiber generates [inflammatory cytokines](#) which are present for a long time following radiation, resulting in increased inflammation of the digestive system. Conversely, a fiber-rich [diet](#) decreases the presence of cytokines to reduce radiation-induced inflammation, both in the short and the long term."

Intestinal issues following radiotherapy are problematic for many cancer survivors.

"In Europe, approximately one million pelvic-organ cancer survivors suffer from compromised intestinal health due to radiation-induced gastrointestinal symptoms," Dr. Stringer says.

"This is also commonplace in Australia and around the world with no immediate cure or effective treatment. If we can prevent some of inflammation resulting from radiation simply by adjusting dietary fiber

levels, we could improve long-term, and possibly life-long, intestinal health among cancer survivors."

More information: Piyush Patel et al. Dietary Oat Bran Reduces Systemic Inflammation in Mice Subjected to Pelvic Irradiation, *Nutrients* (2020). [DOI: 10.3390/nu12082172](https://doi.org/10.3390/nu12082172)

Provided by University of South Australia

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