



This monograph was prepared by The Ottawa Integrative Cancer Centre (OICC), in collaboration with the Complementary Medicine Education and Outcomes (CAMEO) Research Program. It is part of a series of monographs being developed to share results of a review of the research evidence related to common therapies and products used within cancer patient care.

The following monograph is designed to summarize evidence-based research and does not advocate for or against the use of a particular therapy. Every effort is made to ensure the information included in this monograph is accurate at the time it is published.

Please note that this monograph does not include an exhaustive list of all potential adverse events; individuals may experience unique side effects. The information in this monograph should not be interpreted as medical advice nor should it replace the advice of a licensed health care provider. Prior to using a new therapy or product, always consult a licensed health care provider.

For the safe use of natural health products, please consider the following:

- Consult a licensed health care provider prior to using a natural health product and make a plan to monitor its effectiveness and any side effects. This is particularly important for pregnant or breast-feeding women and people with serious medical conditions.
 - To help prevent interactions with your prescribed medication, ensure your health care provider is aware of any drugs or natural health products you may be using. Make sure to note all natural health ingredients listed in compound products.
 - Read and follow all instructions on the product label.
- If purchasing natural health products in Canada, look for Health Canada approved products. Look for Natural Product Number (NPN) or Homeopathic Medicine Number (DIN-HM) on the label to identify licensed products. Avoid internet pharmacies, as the quality of products cannot be guaranteed and products might not be licensed for sale through Health Canada. For more information, visit <http://www.hc-sc.gc.ca/dhp-mps/prodnatur/about-appropos/cons-eng.php>

Please note: While the aim was to draw from the most extensive research, in some circumstances the information used was limited by the selection and caliber of available research studies. Full references are available in the corresponding full-length monographs found on the OICC website.

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Patient Resource: Breast Cancer Flax Seed



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Overview

Flax seed is commonly used for the treatment of hot flashes, preventing breast cancer development and recurrence and preventing tumour growth. Chemical compounds in flax may modulate the effect of estrogen in the body. Flax appears to be effective in lessening the impact of hot flashes. Flax may also possess anti-tumour effects. Flax is considered safe for most people.

What is flax?

Flax is derived from the plant *Linum usitatissimum*. Flax seed is a source of dietary fibre, compounds called 'lignans' and the omega-3 fatty acid called alpha linoleic acid. Flax is commonly taken as ground seeds or as an oil. However, it is the lignan-containing part of the ground seeds which is thought to be responsible for effects on hot flashes and anti-tumor effects.

What is flax used for?

In breast cancer, flax is commonly used for the treatment of hot flashes, preventing breast cancer development and recurrence, and preventing tumour growth.

Does flax work?

Research suggests 4 tbsp of ground flax seed per day may reduce hot flash scores by up to 50% within 6 weeks of taking it. Flax may also significantly improve overall quality of life by lessening the impact of hot flashes. Additionally, flax may also have anti-tumour effects. In one study, consumption of 25g of flax seed per day for 32 days before surgery for removal of primary breast cancer was found to show benefits on markers of tumour growth. Higher dietary intake of lignans has also been associated with a 19% decrease in the risk of developing breast cancer.

How does flax work?

Flax seed is broken down by the body into chemicals compounds called 'lignans'. Lignans modulate the effect of the female hormone estrogen, and are thought to be responsible for the anti-cancer effects of flax.

What are some possible side effects of flax?

Reported side effects are mild and largely gastrointestinal (GI), including abdominal fullness, flatulence, nausea and altered bowel habits.

Is flax safe?

No serious adverse events have been reported with the use of flax. People with bleeding disorders, or using anticoagulants should use caution as flax seed may increase bleed time. Women with diabetes should monitor their blood glucose levels while taking flax.

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Patient Resource: Breast Cancer Flax Seed

Safety specific to hormone-sensitive cancers

Research shows that flax does not have estrogenic effects and has no significant effect on blood estrogen levels. Two studies in healthy women found a decrease in blood estrogen level instead, suggesting a reduction in exposure to estrogen associated with flax consumption. Flax does not appear to have estrogenic effects on breast tissue.

Are there interactions with flax?

There are no known interactions between flax seed and hormone therapies or aromatase inhibitors, which are common treatments used in breast cancer. Animal studies suggest an increased anti-tumour effect when flax is combined with tamoxifen, with reductions in tumour size and cell growth.

If you choose to use flax:

Research suggests consuming 25-40g (2-4 tbsp) of ground flax seed per day, intended for long-term use.

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