

The Environment Guide

The conditions inside and around you

Much of your immune system is shaped by environment and daily life rather than by your genes — which is exactly what makes this pillar possible. The terrain your treatment works in can be changed. The job is narrow and honest: **reduce what harms it, correct what is genuinely missing, and add only what is proven.**

Read this first: the most powerful move in this pillar is often to *remove a burden*, not to add a supplement. Discuss any change — especially anything you take by mouth — with your oncology team before you start. Some compounds interact with chemotherapy, radiation, hormone therapy, and surgery. The right answer is sometimes "wait until after this cycle."

✗ Reduce — what burdens the terrain

- **Alcohol** — an established, modifiable cause of cancer (American Society of Clinical Oncology); linked to roughly 5.6% of U.S. cancer cases
- **Smoking** — quitting at or around diagnosis is associated with better survival
- **Untreated poor sleep and chronic stress** — both measurably lower immune activity (see the Sleep pillar)
- **Supplements you don't need** — more is not automatically safer

✓ Correct — what may be missing

- + **Test before you treat** — vitamin D (25-OH-D), iron / ferritin, B12
- + **Vitamin D** — if low, correct it *daily* to a target set with your team; daily beats large intermittent doses
- + **Iron** — have it tested before anemia is treated blindly
- + **Correct a measured deficiency** — don't guess, and don't correct what isn't low

The one that matters most: high-dose antioxidant supplements during treatment can cause harm. In one randomized trial, vitamin E taken during radiotherapy **raised** the rate of second cancers; separately, selenium showed no cancer-prevention benefit and some harm. The rule is simple — correct a measured deficiency, but do not blanket-supplement antioxidants on the assumption that more protection is better.

The Environment Guide · By lever

What to do — and what to ask your team

Alcohol

An established, modifiable cause of cancer, and it taxes the same liver that is processing your treatment. **What to do:** reduce it — there is no clearly "safe" level for cancer risk. *Ask: given my treatment, what is reasonable for me?*

Smoking

Quitting at or around diagnosis is linked to longer survival — the evidence is strongest in several cancers, including colorectal. **What to do:** ask for help; counseling and medication together work best. *Ask: can you connect me with a cessation program?*

Vitamin D

Test your 25(OH)D first. Choose D3 (cholecalciferol), take it **daily** with a fatty meal to a target set with your team, and pair with K2 (MK-7). Daily dosing — not large monthly "bolus" doses — is what the mortality data favors. *Ask: what is my level, and my target?*

Other levels worth checking

Iron / ferritin (before anemia is treated blindly), B12, and magnesium. Correct what is genuinely low; leave alone what is not. *Ask: which of these should be on my next blood panel?*

The antioxidant caution

"Antioxidants protect cells, so more must be better" is not true during cancer treatment — high doses can work against therapy or raise risk. Correct a measured deficiency; do not take high-dose antioxidant supplements on the assumption they help. *Ask before adding anything: does this interact with my treatment?*

How we approach it: the terrain is built by daily choices, not by one bottle. We bring every supplement — and every habit worth mentioning — to every appointment, so the oncology team has the full picture. Nothing about your body should be a secret from your team.

— Ute and Sonja Galani

The evidence behind this guide: Brodin 2015 (the immune system is largely shaped by non-heritable, environmental factors) · LoConte 2018 / ASCO (alcohol and cancer) · Kuznia 2023 (daily vitamin D and cancer mortality) · Bairati 2005 (vitamin E harm during radiotherapy) · Caini 2022 (smoking cessation and survival). Full citations and the science behind each point are in *Breathe & Bloom*, Part 5.