

Integrative Oncology

Holistic medicine uses a whole-person approach to address healing. In addition to the physical symptoms of the disease, the psychological, social, and spiritual aspects are also considered. Integrative medicine is a healing-oriented holistic medicine that takes into account the whole person (body, mind, and spirit), including all aspects of their lifestyle. It integrates mainstream conventional medicine along with complementary therapies into a patient's treatment regimen.

Integrative medicine in cancer care, now called integrative oncology, combines traditional cancer care with complementary therapies. Complementary therapies can include herbs, botanicals, vitamins, and probiotics as well as acupuncture (the ancient Chinese practice of inserting thin needles into specific parts of the body), massage, and mind/body relaxation techniques (i.e., Tai Chi, yoga, meditation, guided imagery, and health-related prayer) to lessen treatment side effects and, in some cases, to improve quality of life. Complementary therapies differ from alternative therapies, which are remedies used instead of standard or proven therapy. Because many lymphomas are treatable and curable with conventional medical care, patients diagnosed with lymphoma should never consider alternative treatment for cancer, regardless of unproven claims on the Internet and elsewhere.

The use of unorthodox remedies to treat illness has a long history in the United States. However, it was not until 1992 when the National Institutes of Health launched the Office of Alternative Medicine—now known as the National Center for Complementary and Integrative Health—that the study of complementary and alternative therapy gained real legitimacy in traditional medicine. In addition, many major academic cancer centers have since launched clinical studies in complementary/integrative therapies for cancer. Some oncologists now incorporate integrative oncology into standard cancer care regimens in the treatment of lymphoma.

How Integrative Oncology Helps

Integrative therapies are currently used to reduce lymphoma symptoms and relieve treatment side effects. For example, acupuncture can alleviate nausea and vomiting and may aid in sleep and increase energy levels in some patients. There is evidence that touch therapies, such as massage therapy, can be instrumental in reducing pain and producing a sense of well-being in patients with lymphoma.

More information about these therapies is listed below:

- **Acupuncture** — Ultra-thin needles are applied to specific points on the body. Acupuncture is safe and generally painless. Studies show that acupuncture can relieve pain, nausea, fatigue (feeling tired), hot flashes, and neuropathy (numbness and tingling in the hands and feet) associated with chemotherapy and can help decrease mild depression.
- **Mind/body techniques** — The connection between the mind and physical health is well documented. Meditation, guided imagery, and self-hypnosis are all methods used to manage stress and, by doing so, relieve pain. Yoga and Tai Chi minimize stress and improve balance and flexibility.
- **Touch therapies** — Massage, reflexology (foot massage), and Reiki involve applying therapeutic pressure to the body to restore a sense of harmony, relaxation, and well-being.

Of note, before undergoing any type of massage therapy, patients should check with their oncologist to make sure their blood counts are normal and that they do not have lymphedema (localized fluid retention caused by a weakened lymphatic system) or any other medical problem that would keep them from getting a massage. Because low platelets can cause patients to bleed or bruise more easily, the massage therapist will need to use a lighter touch. Patients with low neutrophil counts are prone to infections; in this case, the therapist will need to make sure the environment is clean and take other precautions so that the patient doesn't get an infection. The patient's medical team can recommend a qualified massage therapist with experience in treating patients with lymphoma. If you plan on using a massage therapist outside of the patient's cancer treatment center, check to see whether he or she has experience in treating cancer patients and has received advanced training, preferably endorsed by the National Certification Board for Therapeutic Massage and Bodywork or by the American Massage Therapy Association.

What to Avoid

While some complementary/integrative therapies, including meditation, acupuncture, and therapeutic massage, have been found to be safe and effective for providing symptom relief from cancer treatment, other complementary therapies, such as herbs,

vitamins, and antioxidants, may actually be harmful. This is because they can reduce the effectiveness and increase the toxicity of chemotherapy agents and radiation therapy. Additionally, vitamins A, C, and E in over-the-counter antioxidant supplements are often present in high doses. Even antioxidant-rich drinks like green tea and pomegranate juice could potentially reduce the effectiveness of chemotherapy and radiation therapy by protecting the tumor cells from oxidative damage caused by the treatments.¹⁻⁴

Radiation and many chemotherapy drugs, including the alkylating agents cyclophosphamide (Cytoxan) and nitrogen mustard, act by interfering with a process in cells called oxidation, and some laboratory research suggests that antioxidants block that oxidative process.

Until more research is done, patients with lymphoma should avoid the use of antioxidants and dietary supplements, even in low doses, and refrain from drinking juices high in antioxidants, such as cranberry, pomegranate, acai, goji, and mangosteen, while undergoing treatment with radiation or chemotherapy.

The combination of herbal remedies with conventional chemotherapy is also not recommended. For example, the botanical St. John's wort interferes with some common chemotherapy agents, causing their effectiveness to be reduced. The reason may be because St. John's wort and chemotherapy drugs compete for the same metabolic pathway in the liver.

The Importance of a Healthy Diet and Exercise

Although taking over-the-counter dietary supplements should be avoided during lymphoma treatment, eating a nutrient-rich diet is essential for maintaining energy, supporting the immune system, and reducing the side effects of lymphoma treatment. A diet high in nutrients, especially one that contains plenty of omega-three fatty acids, can also reduce inflammation in the body, slow down the growth of new blood vessels (angiogenesis) and speed up cell death (apoptosis). Omega-three fatty acids can be found in the following foods:

- Deep cold-water fish such as salmon, albacore tuna, mackerel, and sardines
- Organic eggs
- Walnuts

It is important to maintain a healthy diet while undergoing cancer treatment, including eating plenty of fruits and vegetables, whole

grains, meats, and dairy products. Since patients with cancer need to eat food to keep up their strength, they should include extra protein and calories in their diet. Maintaining a regular exercise program most days of the week is also recommended to help reduce fatigue and stress and build muscular strength. However, before starting or resuming any exercise program, patients should talk with their physician to see how much and what types of activity are most appropriate for them.

Vitamin C and Its Potential Effect on Non-Hodgkin Lymphoma

Vitamin C is an antioxidant abundant in citrus fruits like oranges and grapefruit, as well as certain vegetables and other fruits. Studies have shown a link between eating foods rich in vitamin C and a reduced risk of cancer. However, studies done with vitamin C supplements have not shown a reduced cancer risk.

A Phase I study of intravenous high-dose vitamin C in patients with various types of advanced cancer showed the treatment to be safe and nontoxic.⁵ However, these patients were not receiving chemotherapy in combination with vitamin C, and none of the patients had an antitumor response. Additionally, a laboratory study by researchers at Memorial Sloan Kettering Cancer Center on the effects of vitamin C on cancer cells found that the supplement reduced the effectiveness of chemotherapy drugs.⁶

Until more is known about the effect of vitamin C and other antioxidants on cancer and its treatment, a healthy diet is recommended as an appropriate source of the nutrients needed to stay healthy.

Integrative treatment plans are developed by patients and their healthcare team, and are based on evidence-based medicine and experience and what might be best for the individual patient. Patients should tell their medical team about any dietary supplements or vitamins they are taking and ask about potential conflicts or interference with their treatment.

Questions to Ask The Physician

- Am I a candidate for integrative oncology?
- What types of integrative oncology would be most beneficial for me?
- How much physical activity should I have each day?
- What food and drinks should I consume, and which ones should I avoid?

Glossary of Terms

Acupuncture – The ancient Chinese practice of inserting ultra-thin needles into specific parts of the body. Acupuncture is safe and generally painless.

Evidence-based medicine – The process of systematically reviewing, appraising, and using clinical research findings to aid the delivery of optimum clinical care to patients.

Guided imagery – The use of mental visualization to reduce anxiety and pain and boost the immune system.

Integrative oncology – Healing-oriented medicine that takes into account the whole person (body, mind, and spirit), including all aspects of their lifestyle.

Meditation – A relaxation technique that helps patients achieve a resting state, inner harmony, and increased mental awareness through focusing on the breath, a word, an object, or a silent prayer.

Reiki – A Japanese touch therapy technique for stress reduction and relaxation.

Support

A lymphoma diagnosis often triggers a range of feelings and raises concerns. In addition, cancer treatment can cause physical and emotional discomfort. Support groups and online message boards can help patients connect with other people who have lymphoma. One-to-one peer support programs, such as the Lymphoma Research Foundation's (LRF's) Lymphoma Support Network, match lymphoma patients (or caregivers) with volunteers who have gone through similar experiences.

Resources

LRF offers a wide range of resources that address treatment options, the latest research advances, and ways to cope with all aspects of lymphoma, including our award-winning mobile app. LRF also provides many educational activities, from in-person meetings to teleconferences and webcasts, as well as disease-specific websites, videos and eNewsletters for current lymphoma information and treatment options. To learn more about any of these resources, visit our website at www.lymphoma.org, or contact the LRF Helpline at (800) 500-9976 or helpline@lymphoma.org.

Patient Education

LRF offers a wide range of opportunities to learn about lymphoma.

Ask the Doctor About Lymphoma is a national series of two-hour, topic-specific community-based programs that combine a presentation by a medical doctor with an extensive question and answer session.

Lymphoma Workshops are regional, full-day educational programs that provide the latest information about lymphoma, current treatment options, and patient support issues.

The North American Educational Forum on Lymphoma is held annually and provides critical information on treatment options, patient support issues, and the latest in lymphoma research.

Webcasts/Podcasts are available on specific types of lymphoma, treatment options, and support topics.

Teleconferences are hour-long, interactive telephone programs that provide an opportunity to learn more about lymphoma, treatments, and promising research from leading lymphoma experts.

Patient Services and Support

LRF can support you and your loved ones in many ways. LRF Helpline staff members are available to answer your general questions about a lymphoma diagnosis and treatment information, as well as provide individual support and referrals to you and your loved ones. Callers may request the services of a language interpreter.

Clinical Trials Information Services increases awareness about novel and emerging treatments for lymphoma. The LRF Helpline staff will conduct a search for clinical trials based upon your specific diagnosis and the medical information so you and your physician can discuss and make important decisions about clinical trial options.

Lymphoma Support Network is a national, one-to-one peer support program that matches lymphoma patients or caregivers with volunteers who have had similar lymphoma-related experiences.

Financial Assistance Grant Program offers limited financial assistance to eligible patients currently undergoing treatment for lymphoma.

Stories of Hope are personal stories written by members of the lymphoma community who have shared their experiences to help provide hope and inspiration to others. You too can be a source of inspiration by posting your story to the LRF website.

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Patient Publications

LRF offers a series of print and web-based patient education publications. LRF offers comprehensive guides on non-Hodgkin lymphoma (NHL), Hodgkin lymphoma (HL), and chronic lymphocytic leukemia/small lymphocytic lymphoma (CLL/SLL) along with a variety of disease- and topic-specific fact sheets. Contact the LRF Helpline at (800) 500-9976 or visit our website at www.lymphoma.org/publications.

The goal of these publications is to provide an overview of lymphoma, as well as specific information about the diagnosis and treatment of more than 25 lymphoma subtypes and a variety of supportive care topics. Each guide and fact sheet is updated annually, which includes a medical review by an expert in that particular type of lymphoma. These publications are available in print and web format and are provided free-of-charge to patients, survivors, caregivers, and loved ones. LRF will also supply bulk quantities of these to healthcare providers interested in sharing the information with their patients.

Mobile App

LRF has also launched a new application for smartphones and tablets to help patients keep track of oral chemotherapy agents. *Focus on Lymphoma* is the first mobile app that provides patients and caregivers comprehensive content based on their lymphoma subtype and tools to help manage their diagnosis, including a medication manager and side effects tracker. The *Focus on Lymphoma* mobile app is now available for free download for iOS and Android devices in the Apple App Store and Google Play. For additional information on the mobile app, visit www.FocusOnLymphoma.org.

¹Lawenda BD et al. *J Natl Cancer Inst.* 2008;100:773-783.

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³Norman HA et al. *J Nutr.* 2003;133:3794S-3799S.

⁴Bairati I et al. *Int J Cancer.* 2006;119:2221-2224.

⁵Stephenson CM et al. *Cancer Chemother Pharmacol.* 2013;72:139-146.

⁶Heaney ML et al. *Cancer Res.* 2008;68:8031-8038.