

The Leukemia & Lymphoma Society

Advancing Our Mission Through:

Research

The Leukemia & Lymphoma Society (LLS), headquartered in White Plains, NY, with 68 chapters in the United States and Canada, is the world's largest voluntary health organization dedicated to funding blood cancer research and providing education and patient services.

LLS has invested more than \$621 million in research since our founding in 1949. Our three research grant programs cover the full range of academic biomedical studies, from basic laboratory science to clinical trials of new agents; and from individual investigator-initiated research to large-scale, multi-disciplinary scientific collaborations. Relevant, cutting-edge research is also funded with milestone-driven contracts aimed at further bridging the gaps between basic science discoveries and human applications. This funding helps advance LLS-funded academic research with the greatest clinical promise of reaching the product stage, allies LLS with companies to support the development of potential therapies that would otherwise not be prioritized for development, and partners LLS with certain of the country's leading clinical trial centers to accelerate the testing of promising blood cancer therapies in clinical trials.

LLS programs accelerate research outcomes that prolong, enhance and save lives:

- **Filling a Void:** Supporting promising research projects – for example, those that have high-risk profiles or address serious diseases of lower incidence – that may fail to meet funding criteria of government or for-profit companies but may advance breakthroughs for blood cancer patients.
- **Synergy:** Facilitating collaboration among academic, government and industry-supported researchers – cross-cutting research has led to new treatments for blood cancer patients and, in many cases, for patients with other diseases or types of cancer.
- **Large Scale:** Funding large grants that enable scientists from different disciplines and institutions, including companies, to attack a disease problem from several vantage points, leading to faster research successes for the patients who need them.

Patient Services

We are the leading resource for blood cancer information and patient support services, providing:

- **An Information Resource Center (IRC)** staffed with master's-level professionals who respond to a patient's individual needs.
- **Community-level patient support and educational programs** through our 68-chapter network across the United States and Canada.
- **Educational programs featuring leading oncology professionals**, with specialties across all blood cancers, broadcast live or in teleconferences and archived on our Web site for ongoing access.

Advocacy

More than 40,000 advocacy volunteers are making our voice heard in research and education.

- Promoting blood cancer research at the National Institutes of Health, National Cancer Institute and Department of Defense.
- Fighting for patient access to treatments at the Food & Drug Administration and in Medicare programs.
- Reaching underserved blood cancer patients with Centers for Disease Control education programs.
- Increasing patient access to clinical trials.

World Class Researchers Making an Impact

For more than 50 years, funding from generous donors has allowed LLS to support promising research. Advances over the past 40-50 years include:

- Introduction of multiple-drug therapies which are more effective than treatments with single anti-cancer agents
- Development of stem cell transplantation to treat blood cancer patients who relapse despite the best therapy
- Clinical trials to determine which drugs and drug combinations should be used to induce remission in patients with particular blood cancers and for long-term therapies
- Description of the specific cellular characteristics that distinguish particular blood cancers (diagnosis); this information helps plan the type and intensity of therapy needed for cure (risk stratification)
- Description of the specific gene mutations that cause particular blood cancers; useful in diagnosis and risk stratification and for new "targeted drug" development

In recent years, scientists affiliated with LLS have helped advance new treatments, including molecularly targeted treatments that can kill cancer cells without harming normal cells. LLS-funded investigators continue to discover cancer-causing molecules, develop new treatments that selectively target these molecules, and learn how to best use targeted therapies, often for more than one group of patients.

For example:

- Imatinib mesylate (Gleevec®), the targeted drug, used in pill form, to create sustained remissions in patients with chronic myelogenous leukemia or one of several other types of cancer; and other new compounds for patients who develop Gleevec resistance
- Bortezomib (Velcade®), thalidomide and lenalidomide (Revlimid®), are now used to treat patients with multiple myeloma and more recently, patients with non-Hodgkin lymphoma (NHL)
- Rituximab (Rituxan®) is the targeted antibody treatment developed for patients with B-cell NHL and now used to treat patients with chronic lymphocytic leukemia.

New Directions

LLS-funded researchers are currently exploring areas of research that hold promise for cures:

- **Immunotherapies:** These new treatments include cancer vaccines and immune cell-based procedures that help a patient's own immune systems identify and kill residual blood cancer cells, reducing the risk of relapse.
- **Radioimmunotherapies:** Researchers are developing new techniques that deliver radiation via antibodies that bind specifically to cancer cells, sparing normal tissue.
- **Novel Stem Cell Transplantation Procedures:** These include so-called mini-transplants that use less toxic pre-transplant treatments, and engineered donor cells that help reduce post-transplant complications, making this potentially curative treatment available to more patients.
- **Survivorship Research:** These studies are increasing our understanding of how specific treatments can cause debilitating side-effects, including late-effects, and which patients are at risk for developing these complications, so that they can be predicted, managed and even prevented.



www.LLS.org • 888.HELP.LLS