NEWS FROM Roswell Park’s LEUKEMIA SERVICE
MEET THE LEUKEMIA TEAM

The Leukemia Service at Roswell Park Cancer Institute (RPCI) is dedicated to quality patient care, innovative research, and the development of more effective treatments for all hematologic malignancies, including:

- Acute lymphoblastic leukemia (ALL)
- Acute myeloid leukemia (AML)
- Chronic myeloid leukemia (CML)
- Myelodysplastic syndrome (MDS)
- Myeloproliferative neoplasms (MPN)

RPCI’s Leukemia Service takes a team approach to patient care. A leukemia physician oversees a team of fellows, nurse practitioners, physician assistants, pharmacists, social workers, a discharge-planning coordinator, psychologists, research coordinators, dieticians and physical and occupational therapists. Our nurse practitioner/physician assistant-run clinic in the Chemotherapy/Infusion Center is designed to see patients receiving outpatient chemotherapy or those who have low blood counts and are in need of transfusions.

Clinical research conducted by our faculty and staff consistently translates into new therapeutic approaches and advances overall knowledge of the disease.

A LEUKEMIA PATIENT

We work continually to fortify existing partnerships with the community physicians who entrust their patients to RPCI.

When you suspect or diagnose cancer in your patient, you want the best treatment and care available for that patient. At RPCI, we believe in a multidisciplinary team approach. As your patient’s primary physician, you remain a key member of this team. We will work closely with you and keep you informed of your patient’s treatment and progress. After treatment has been completed and your patient returns to your care, we will continue to provide assistance as needed.

With even a suspicion of cancer, your patient can call us and one of our referral professionals will walk him or her through the referral process, answer questions and set up an appointment with the cancer care specialist best suited to the case.

Patients may be referred by a physician or may directly seek a consultation and treatment. The Patient Referral Office is open Monday through Friday, 8 am - 5 pm.

Call 1-800-ROSWELL (1-800-767-9355) to seek a consultation or second opinion, or to refer a patient.
At RPCI, a dedicated team of board-certified hematopathologists performs state-of-the-art, integrated diagnostic hematopathology—essential to diagnosing and classifying hematolymphoid neoplasms according to the most recent WHO classification.

“Pathology is not just looking at cells under the microscope anymore,” says George Deeb, MD, Assistant Professor, Director of Hematopathology and Department of Pathology & Laboratory Medicine; Associate Director, Laboratory of Clinical Flow Cytometry. “The integrated diagnostic approach is based on comprehensive clinical, morphologic, immunophenotypic, cytogenetic, and molecular genetic studies of blood, bone marrow and extramedullary tissue samples.”

Our hematopathologists work closely with the leukemia clinical team and other ancillary laboratories at RPCI to expedite prompt, comprehensive assessments. The ancillary laboratories incorporate the following:

- bone marrow laboratory
- immunohistochemistry laboratory with wide arrays of markers available
- flow and image cytometry laboratory with a spectrum of comprehensive panels of markers to thoroughly characterize hematolymphoid neoplasms immunophenotypically
- cytogenetic laboratory with karyotypic analysis and large number of FISH probes for many types of genetic abnormalities
- molecular diagnostic laboratory with a plethora of PCR and sequencing-based analyses.

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Accurate diagnosis is critical for appropriate treatment.

10% of patients receive a different diagnosis after coming to RPCI, as a result of the specialized expertise of the Pathology team at RPCI.
Leukemia cells from individual patients have been shown to be biologically diverse. Targeted biological agents which block a specific molecular or genetic abnormality in select leukemia cells may improve outcomes for some leukemia patients without the severe side effects of chemotherapy. For this reason, each leukemia patient undergoes appropriate diagnostic tests to determine whether a targeted therapy is available for their disease subtype.

Eligible patients can then access the latest and most recent treatment advances through clinical research studies at RPCI. About 50% of leukemia patients at RPCI are enrolled in a clinical trial. Trials include tyrosine kinase inhibitors for chronic myeloid leukemia and novel agents for FLT3-mutated acute myeloid leukemia and myelofibrosis with and without JAK2 mutations.

Prior research at RPCI has indicated that low vitamin D levels are associated with poorer outcomes for acute myeloid leukemia. We are currently assessing the effect of vitamin D supplementation in this patient population.
The statistical data presented here has been benchmarked against data collected by SEER, NCDB, Press Ganey and NCCN.

For healthcare professionals, quality cancer care tends to be defined by clinical outcomes—particularly those that impact patient mortality, morbidity and cost of care—and rooted in evidence-based medicine and best practices.
Translational research, which aims to bring new discoveries to the clinic to help patients as quickly as possible, is the hallmark of the investigative efforts of RPCI’s Leukemia Team. It begins in the laboratory, where researchers define an aberration within a cell and strive to correct it, an endeavor that has led to the development of many medications we use today. RPCI researchers are investigating a number of pathways in leukemia, and this work has already led to several clinical studies for RPCI patients.

Currently we are investigating:

- The role of signal transducer and activator of transcription in leukemogenesis; cellular and humoral immune response to leukemic-associated antigens; and cytogenetics in AML and ALL
- The role of angiogenesis and hypoxia in promoting acute leukemia; and the genetic analyses of leukemias.
- The etiology of MDS and unexplained anemia (UA) of aging; the role of mitochondrial DNA (mtDNA) mutations in immunosenescence; and the role of mtDNA mutations in the development of MDS and UA.
- Epigenetic changes in leukemia and myelodysplastic syndromes, and novel therapeutics for elderly patients with Acute Myeloid Leukemia
- Novel therapies for hematologic malignancies; oxidative stress mechanisms in hematologic malignancies; and erythropoiesis and hypoxia.

Results from our clinical trials have raised new questions, leading to new bench research, called retro-translational research.
INTEGRATING PSYCHOSOCIAL SUPPORT INTO EVERY PATIENT’S CARE

Adjusting to diagnosis and coping with treatment is difficult for most cancer patients, but those with acute leukemia often face unique challenges. “Any cancer diagnosis is a shock, but with leukemia, there is often a need to begin treatment quickly. Patients and families are left with very little time to adjust,” says Teresa Johnson, LCSW, Medical Social Worker.

RPCI offers extensive psychosocial services for leukemia patients, including support at the time of a new diagnosis, psychosocial assessment, counseling for patients and their families, and a caregiver orientation and networking program for family members of all newly diagnosed leukemia patients.

“As a comprehensive cancer center,” says Ms. Johnson, “we are committed to meeting each patient’s needs with focus on their social, emotional and spiritual well-being.”

Our psychosocial oncology services, while beneficial to many cancer patients, are often essential for those with leukemia.

PSYCHOSOCIAL ONCOLOGY SERVICES

- Supportive counseling
- Educational and orientation programs to help patients and their families understand the disease and its treatment
- Assistance in navigating the Family Medical Leave Act (FMLA), sick leave and disability
- Help with lodging, transportation or language/interpreter needs
- Connections to financial assistance programs and other community resources
- Assistance with advance care planning, palliative care and/or hospice as needed

Hematologic Procurement Facility

This facility allows RPCI to collect and bank tissue samples from all patients with hematologic malignancies. We study these samples to better understand characteristics of individual patients’ disease, and this leads to new findings and the development of better clinical studies for leukemia patients.
Roswell Park Cancer Institute plays a key role in developing the **National Comprehensive Cancer Network (NCCN)** guidelines that specify the best ways of preventing, detecting and treating specific types of cancer. The NCCN guidelines, based on scientific data, are the most widely used standards for cancer care. These RPCI physicians are members of NCCN guideline panels.

**Meir Wetzler, MD, FACP,**
Chief, Leukemia Section, Department of Medicine; Assistant Research Professor, Department of Immunology; serves on the Chronic Myelogenous Leukemia and Acute Lymphoblastic Leukemia Panels.

**James Thompson, MD,**
Assistant Professor of Oncology, Department of Medicine; Assistant Member, Department of Immunology; serves on the Myelodysplastic Syndromes Panel.

**Eunice Wang, MD,**
Assistant Professor, Department of Medicine; Assistant Member, Tumor Immunology Program; serves on the Acute Myeloid Leukemia Panel.

Visit [www.nccn.org](http://www.nccn.org) for more information.