

# Leukemia

MD Anderson Cancer Center has one of the largest leukemia and hematologic disorder programs in the world and treats more than 2,000 new patients annually. Our world-renowned physicians use an interdisciplinary approach to provide a holistic, multimodal treatment plan tailored specifically to each patient. We have a robust research program with more than 190 clinical trials available to offer patients access to new treatments, including CAR T cell therapy, targeted therapies, immunotherapies and stem cell transplants. Our goal is to provide exceptional care and efficacious therapeutic options to prolong survival and improve the quality of life of our patients.

## Cancers and hematologic diseases we treat

- [Acute lymphoblastic leukemia \(ALL\)](#)
- Acute promyelocytic leukemia
- [Acute myeloid leukemia \(AML\)](#)
- Aplastic anemia
- [B cell prolymphocytic leukemia](#)
- [Blastic plasmacytoid dendritic cell neoplasm](#)
- [Chronic lymphocytic leukemia \(CLL\)](#)
- [Chronic myeloid leukemia \(CML\)](#)
- Chronic myelomonocytic leukemia
- [Hairy cell leukemia \(HCL\)](#)
- [Hemophagocytic lymphohistiocytosis](#)
- [Hypereosinophilic syndromes](#)
- [Juvenile myelomonocytic leukemia](#)
- [Large granular lymphocytic leukemia](#)
- [Mastocytosis, including advanced systemic mastocytosis](#)
- [Myeloproliferative neoplasms \(MPN\)](#)
- [Myelodysplastic syndrome \(MDS\)](#)
- Paroxysmal nocturnal hemoglobinuria
- [T cell prolymphocytic leukemia \(T-PLL\)](#)



**Subscribe to Leukemia Insights**, our monthly email newsletter, to stay informed about the latest leukemia research.



### **Emil J Freireich Hematology Grand Rounds**

This series highlights the research taking place at MD Anderson's Leukemia Center.

**Wednesdays | 8-9 a.m. CST | Virtual platform: Zoom**

Audience: Internal and external colleagues from around the world

THE UNIVERSITY OF TEXAS  
**MD Anderson  
Cancer Center**

Making Cancer History®

## Advanced treatment options for patients

- CAR T cell therapy
- Chemotherapy
- Clinical trials
- Immunotherapy
- Molecular profiling
- Monoclonal antibody therapy
- Radiation therapy
- Stem cell transplants
- Targeted therapy
- Vaccines

## Where you send your patient first matters.

MD Anderson's leukemia program consists of distinct sections that focus solely on one subtype of hematologic malignancy or disease. Our subspecialized teams of experts are dedicated to hematologic disorders encompassing acute and chronic myelogenous and lymphoid leukemias, and similar diseases, such as myelodysplastic syndrome and myeloproliferative neoplasms.

We have the largest clinical trial portfolio in the world for leukemia patients and offer the most up-to-date, innovative and novel treatment methodologies. Our Joe Moakley Leukemia Specialized Programs of Research Excellence (SPORE), CLL Moon Shot® and MDS and AML Moon Shot® Programs are focused on providing cancer treatment from bench to bedside. This translational research has resulted in multimodal therapies that have improved treatment outcomes, reduced disease relapse, and transformed the standards of care of leukemia.

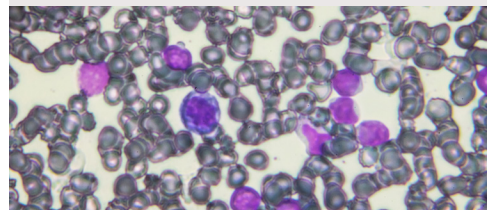
The Leukemia Center collaborates with the Stem Cell Transplantation and Cellular Therapy Center to coordinate stem cell transplants using fully or partially matched donors and umbilical cord blood. We have an on-site hematopathology laboratory that uses state-of-the-art flow cytometry, cytogenetics and molecular analysis to diagnosis, classify and monitor leukemia.

### Clinical services for ALL include:

- Lower-intensity chemotherapy (mini-hyper-CVD) and targeted therapy regimens without chemotherapy
- Innovative cell-based therapies using virus-specific T, CAR T and CAR NK cells
- Next-generation sequencing for minimal residual disease (MRD) assessment
- Clinical trial options for newly diagnosed, relapsed or refractory ALL patients and B-cell acute lymphoblastic leukemia patients



**Watch Hagop Kantarjian, M.D.**, discuss low-intensity chemotherapy with combination therapy for relapsed-refractory Ph-ALL patients.



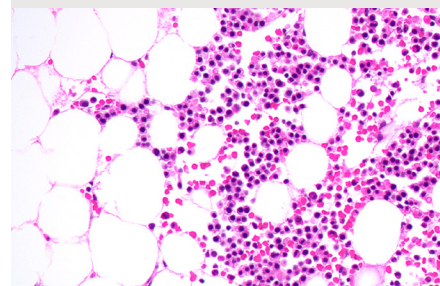
## Leukemia

**Clinical services for AML include:**

- Oral therapies for patients ineligible or unable to tolerate intensive induction chemotherapy
  - Novel combination regimens for FLT3-mutated AML with FLT3 inhibitors, conventional chemotherapy agents, hypomethylating agents and BCL2 inhibitors
  - Genomic sequencing for risk classification and molecular profiling of AML subgroups
  - Targeted therapies with a specific small molecule inhibitor, based on the patient's molecular profile
- Clinical trial options for newly diagnosed, FLT3 mutated, frontline AML post-hypomethylating therapy for MDS, secondary leukemia, mixed phenotype acute leukemia, FLT3 positive at relapse, RAS mutated, AML with MLL gene at 11q23 translocations, AML with mutation in NPM1, IDH mutated, AML with monocytic differentiation, relapsed or refractory disease and maintenance therapy



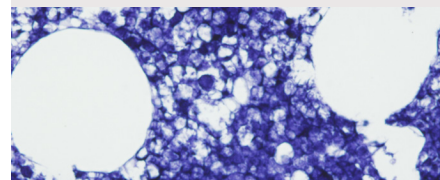
**Watch Farhad Ravandi, M.D.,**  
discuss the management of AML.

**Clinical services for CLL include:**

- Single and combination therapies with BTK and BCL-2 inhibitors, monoclonal antibodies, and targeted therapies without chemotherapy
  - Novel cell-based therapies using virus-specific T, CAR T, and CAR NK cells for treating cancer
- Molecular profiling to identify patients who are at higher risk of treatment failure or relapse
  - Clinical trial options for untreated high risk, early stage or relapsed or refractory CLL patients and Richter's transformation, T-PLL and HCL



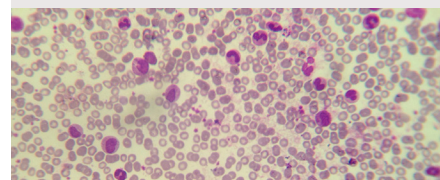
**Watch William Wierda, M.D.,**  
discuss ibrutinib plus venetoclax  
for first-line treatment of CLL.

**Clinical services for CML include:**

- Adult cancer treatment algorithm
- Clinical trial options for all stages, including the chronic, accelerated and blastic phases, imatinib failures with T3151 mutations (any stage) and MRD



**Watch Ghayas Issa, M.D.,**  
define CML and explain its  
diagnosis and prognosis.



## Myelodysplastic Syndrome

MD Anderson's MDS program utilizes an advanced approach that classifies MDS into five subsets:

- 1 Idiopathic cytopenia of unknown significance, clonal hematopoiesis of indetermined potential (CHIP) and clonal cytopenia of unknown significance without morphological features of MDS
- 2 Lower-risk MDS
- 3 Higher-risk MDS
- 4 Previously treated higher-risk MDS
- 5 Higher-risk MDS previously treated with an HMA

This functional classification of MDS gives us the ability to provide clinical trials that result in potentially higher response rates, a reduction of collateral risk of associated comorbidities, and a solution for HMA-failure.

### Clinical services for MDS include:

- Access to the CHIP Clinic, which screens patients with a higher risk of developing hematological malignancies and therapy-related myeloid neoplasms
- Next-generation sequencing assays comprising of 81 genes in real time
- Clinical trial options using targeted therapy and combination oral therapy

## Myeloproliferative Neoplasm

MD Anderson's MPN program is led by a group of globally renowned specialists who are dedicated to the diagnosis and treatment of MPN. The Hanns A. Pielenz Clinical Research Center for MPN is the largest in the world for MPN research and has led to the development of ruxolitinib, which transformed the standard of care for patients with a disease that had inadequate treatment options.

Our research is focused on investigating novel medications to address the unmet needs in MPN treatment, specifically myelofibrosis (MF) patients who failed or had suboptimal response to standard first-line therapy with a JAK inhibitor and MF patients who have relapsed or become refractory to a JAK inhibitor.

### Clinical services for MPN include:

- A centralized MPN tissue bank and clinical database
- Novel therapies to improve anemia and increase platelet counts
- Clinical trials options for myelofibrosis, polycythemia vera and essential thrombocythemia



**Watch Naval Daver, M.D.,** discuss immune checkpoint-based approaches in AML and MDS.



**Listen to Srdan Verstovsek, M.D.,** speak about the management of myelofibrosis.



**Subscribe to our**  
**MPN Focus Newsletter**  
to learn about the latest research and clinical trials in MPN.

## Support Care

At MD Anderson, we provide patients groundbreaking treatment options and integrated programs to give them the best chance at a high quality of life during and after cancer therapy. Clinical support services include:

- Access to the Fast Track Clinic to address patient care needs that arise in between scheduled appointments
- On-site infusion service with same day infusion services
- Clinical nutrition assessment and counseling by dietitians

## Cancer cannot wait.

Our extensive listing of clinical practice algorithms depicts multidisciplinary best practices for care delivery to assist in cancer screening, diagnostic evaluation, treatment, management of clinical symptoms and transition to survivor care.

To learn more about our cancer treatment guidelines, visit our [Clinical Practice Algorithms](#) page.

## When physicians partner, patient-centered care expands.

If your patient has an increased risk of leukemia or a hematologic disorder due to family history, has an abnormal test result, or has relapsed, we have multiple programs available.

### Hereditary Leukemia Clinic

- Evaluation of suspected risk of inherited cancer predispositions and hematologic malignancy syndromes

### MD Anderson Symptom Inventory (MDASI) for AML/MDS Module

- A clinical tool to assess symptom and interference items specifically for AML and MDS

### Pathology & Clinical Laboratory Reference Services

- Hematopathologic laboratory testing and consultation services for molecular diagnostics, flow cytometry, cytogenetic and FISH analysis, and specialized bone marrow testing

### Minimal Residual Disease

- Risk-adapted surveillance plans, novel therapeutic strategies and clinical trials for MRD identified through next-generation genetic sequencing and flow cytometry

### Leukemia Fellowship Program

- The goal of the Leukemia Fellowship Program is to train competent, qualified, caring and empathic physicians who are mindful of the significance of their role in the diagnosis and management of patients with the acute and chronic leukemias as well as myelodysplastic syndromes and myeloproliferative disorders.



## Connect with us.

### A safer environment

Keeping our patients and workforce safe has always been our top priority. To learn more about our response to COVID-19, visit our [Coronavirus Precautions](#) page.

### Patient referrals

Our [Referring Provider Team](#) is dedicated to assisting health care providers with the following:

- Referrals to any MD Anderson center or location
- Continuous follow-up on the status of referrals
- Answers to questions about patient access procedures
- Support with our online physician portal

### Physician portal

Create a secure, HIPAA-compliant account at [myMDAnderson](#) for Physicians to:

- Submit referrals to any MD Anderson center or location
- Access patient appointment schedules and transcribed patient reports/results
- Receive notifications regarding referral status and results
- Easily update your profile and contact information



### Health Care Provider Resource Center


### Oncology care team


For information about our leukemia faculty and staff, visit our [directory](#).


### Refer a patient


#### Referring Provider Team


Monday-Friday: 8 a.m.-11 p.m.  
Saturday-Sunday: 8 a.m.-7 p.m.


 Phone: 877-632-6789

 Fax: 713-563-2449

 Email: [physicianreferrals@mdanderson.org](mailto:physicianreferrals@mdanderson.org)

 Online: [mdanderson.org/referral](http://mdanderson.org/referral)

 [Referral order form](#)

 Physician Portal: [mylink.mdanderson.org](http://mylink.mdanderson.org)



**54+**  
subspecialized  
leukemia faculty

**191+**  
clinical  
trials



**50,000+** **OUTPATIENT ENCOUNTERS ANNUALLY**  
**2,000+** new patients annually

#### Cancer types

**AML** **444** acute myeloid leukemia

**CLL** **415** chronic lymphocytic leukemia

**MDS** **388** myelodysplastic syndrome

**MPN** **254** myeloproliferative neoplasm

**CML** **157** chronic myeloid leukemia

**ALL** **148** acute lymphoblastic leukemia

**HCL** **24** hairy cell leukemia

**BPDCN** **13** blastic plasmacytoid dendritic cell neoplasm