Pediatric Leukemia and Lymphoma Steering Committee (PLLSC)

Strategic Priorities

The overall goal of the NCTN is to perform definitive phase 3 trials. Pediatric phase 3 trials are inherently limited in number due to the thankfully small numbers of patients with specific cancer types. Hence it is essential that questions of therapy for pediatric phase 3 trials for childhood leukemias and lymphomas be thoughtfully prioritized based on compelling basic and translational science and based on clinical experience documenting the activity and the feasibility of the planned therapeutic intervention.

Acute Lymphoblastic Leukemia (ALL)

1. Evaluate novel immunotherapy approaches for selected patient populations.
2. Evaluate the addition of targeted therapies to standard chemotherapy for patient populations whose leukemia cells have activating mutations in targetable kinases, or actionable aberrancies in other pathways.
3. Evaluate treatment approaches that minimize long-term morbidity such as osteonecrosis, neurocognitive deficits, and second cancers; or that would be potentially more effective and carry less adverse side effects than allogeneic hematopoietic stem cell transplantation.
4. Optimize pharmacologically rational approaches to further improve outcomes for average and high-risk patient populations.
5. Collaborate with other NCTN groups to identify acute lymphoblastic leukemia subgroups of interest to evaluate new treatment approaches.

Acute Myeloid Leukemia (AML)

1. Evaluate the addition of targeted therapies to standard chemotherapy for genomically-defined patient populations whose leukemia cells have potentially targetable mutations including, but not limited to, mutations that occur at substantial rates in both the pediatric and adult age range.
2. Evaluate treatment approaches that reduce the acute and long-term morbidity of therapy for children with AML while maintaining or improving overall outcome.
3. Evaluate novel immunotherapy and other approaches for high-risk patient populations that may be more effective and carry less adverse side effects than allogeneic hematopoietic stem cell transplantation.

4. Evaluate special myeloid leukemia subgroups (e.g., APL, Down syndrome AML, and JMML) for which there are research opportunities and clinical needs.

5. Collaborate with other NCTN groups to identify myeloid leukemia subgroups of interest to evaluate new treatment approaches.

Non-Hodgkin Lymphoma (NHL)

1. Develop a biorepository of samples from pediatric NHL patients to enable development of non-invasive methods of disease detection and monitoring

2. Study NHL biology, including that of the tumor microenvironment, to predict host susceptibility to relapse and identify novel biologic targets.

3. Determine differences between pediatric and adult NHL by gene expression profiling, molecular genetics, cytogenetics and immunophenotyping.

4. Develop methodologies to enable detection of minimal disseminated disease (MDD) at diagnosis and minimal residual disease (MRD) during treatment using plasma/serum-based molecular methods including ctDNA

5. Evaluate treatment approaches for aggressive B-cell lymphomas to minimize long-term toxicities of chemotherapy and optimize overall survival. Determine if incorporation of biologic targeted therapies, e.g. immune based therapies and small molecules, will assist in achieving these goals.

Hodgkin Lymphoma (HL)

Pediatric HL

1. Further definition of the unique biology of pediatric HL as a guide for incorporating targeted agents.

2. Assessment of the role of the immune system in HL to develop strategies for incorporation of immuno-oncology agents in treatment.

3. Study toxicity profile and unique PK considerations of targeted agents in the pediatric population and develop treatment approaches utilizing that information

Adolescent/Young Adult HL

1. Define AYA Standard of Care Therapy

2. Include assessments of survivorship, HRQL, outcomes, health services, imaging, and radiation oncology in HL studies.

3. Participate in building the infrastructure for collaborative trials with the NCTN groups.