



Catherine Aftandilian

Clinical Associate Professor, Pediatrics - Hematology & Oncology

CLINICAL OFFICE (PRIMARY)

- **Pediatric Hematology and Oncology**

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Bio

CLINICAL FOCUS

- Pediatric Hematology-Oncology
- Leukemia
- Relapsed leukemia
- Infectious complication of oncology treatment
- Fungal infections

ACADEMIC APPOINTMENTS

- Clinical Associate Professor, Pediatrics - Hematology & Oncology
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute

HONORS AND AWARDS

- Bertil Glader Award for Outstanding Teaching and Mentoring, Lucile Packard Children's Hospital (2019)
- Early Career Clinical Excellence Award, Lucile Packard Children's Hospital (2019)
- Stanford Society of Physician Scholars, Stanford University (2013-2014)
- Innovations in Patient Care Award, Spectrum Child Health Research Institute (2012-2014)
- Fellow, Rachleff Hem-Onc Pediatric Fellowship fund (2012-2013)
- AOA, Medical Honor Society (2007)

PROFESSIONAL EDUCATION

- Medical Education: Tufts University School of Medicine (2007) MA
- Fellowship: Stanford University Pediatric Hematology Oncology Fellowship (2014) CA
- Residency: Mass General Hospital for Children Pediatric Residency (2011) MA
- Internship: Mass General Hospital for Children Pediatric Residency (2008) MA

- Board Certification: Pediatrics, American Board of Pediatrics (2010)
- Board Certification: Pediatric Hematology-Oncology, American Board of Pediatrics (2015)
- Chief Resident, Massachusetts General Hospital for Children , Pediatrics (2011)
- Resident, Massachusetts General Hospital for Children , Pediatrics (2010)
- Doctor of Medicine, Tufts University School of Medicine (2007)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

I conduct clinical research on the prevention, early diagnosis, and treatment of infectious complications in pediatric patients with leukemia.

CLINICAL TRIALS

- Non-Invasive Diagnosis of Pediatric Pulmonary Invasive Mold Infections, Recruiting
- Phase I Dose Escalation Study of CD19/CD22 Chimeric Antigen Receptor (CAR) T Cells in Children and Young Adults With Recurrent or Refractory B Cell Malignancies, Recruiting
- Home Away From Home - Quality of Life Surveys, Not Recruiting
- Symptom Screening Linked to Care Pathways, Not Recruiting

Publications

PUBLICATIONS

- **Prevention and Management of Infectious Complications in Pediatric Patients With Cancer: A Survey Assessment of Current Practices Across Children's Oncology Group Institutions.** *Pediatric blood & cancer*
Slatnick, L. R., Hoogstra, D., Fisher, B. T., Wolf, J., Orgel, E., Nessle, C. N., Patel, P. A., Miller, T. P., Wilkes, J., Dupuis, L. L., Goode, E., Jackson, K., Willis, et al
2025: e31532
- **Symptom Screening Linked to Care Pathways for Pediatric Patients With Cancer: A Randomized Clinical Trial.** *JAMA*
Dupuis, L. L., Vettese, E., Grimes, A. C., Beauchemin, M. P., Klesges, L. M., Baggott, C., Demedis, J., Aftandilian, C., Freyer, D. R., Crellin-Parsons, N., Orgel, E., Dickens, D., Kelly, et al
2024
- **Transition to Enteral Triazole Antifungal Therapy for Pediatric Invasive Candidiasis: Secondary Analysis of a Multicenter Cohort Study Conducted by the Pediatric Fungal Network.** *Journal of the Pediatric Infectious Diseases Society*
Bucayu, R. F., Boge, C. L., Yildirim, I., Avilés-Robles, M., Vora, S. B., Berman, D. M., Sharma, T. S., Sung, L., Castagnola, E., Palazzi, D. L., Danziger-Isakov, L., Yin, D. E., Roilides, et al
2024
- **Application of cell-free DNA fungal polymerase chain reaction for invasive fungal disease evaluation in pediatric oncology and stem cell transplant patients.** *Pediatric blood & cancer*
Kushner, L. E., Schwenk, H. T., Qin, F., Boothroyd, D., Aftandilian, C.
2024: e31133
- **A multi-center study on the adaptability of a shared foundation model for electronic health records.** *NPJ digital medicine*
Guo, L. L., Fries, J., Steinberg, E., Fleming, S. L., Morse, K., Aftandilian, C., Posada, J., Shah, N., Sung, L.
2024; 7 (1): 171
- **Plasma microbial cell-free DNA following chimeric antigen receptor T cell therapy in pediatric patients with relapsed/refractory leukemia.** *European journal of haematology*
Aftandilian, C., Bito, X. R., Berman, D., Zhang, A., Duttagupta, R., Davis, K. L.
2024
- **Household income and health-related quality of life in children receiving treatment for acute myeloid leukemia: Potential impact of selection bias in health equity research.** *Cancer medicine*

- Newman, H., Li, Y., Huang, Y. V., Elgarten, C. W., Myers, R. M., Ruiz, J., Zheng, D. J., Leahy, A. B., Aftandilian, C., Arnold, S. D., Bona, K., Gramatges, M. M., Heneghan, et al
2024; 13 (7): e6966
- **Characterizing the limitations of using diagnosis codes in the context of machine learning for healthcare.** *BMC medical informatics and decision making*
Guo, L. L., Morse, K. E., Aftandilian, C., Steinberg, E., Fries, J., Posada, J., Fleming, S. L., Lemmon, J., Jessa, K., Shah, N., Sung, L.
2024; 24 (1): 51
 - **Case report: sub-clinical extramedullary B-ALL in the setting of relapse following targeted therapy.** *Frontiers in immunology*
Johns, C., Erickson, C., Jacobs, A., Moon, J., Baggott, C., Dagher, R., Nadel, H., Balagtas, J., Aftandilian, C., Ramakrishna, S., Lacayo, N., Davis, K. L., Stieglitz, et al
2024; 15: 1423487
 - **Prospective External Validation of the Esbenshade Vanderbilt Models Accurately Predicts Bloodstream Infection Risk in Febrile Non-Neutropenic Children With Cancer.** *Journal of clinical oncology : official journal of the American Society of Clinical Oncology*
Zhao, Z., Patel, P. A., Slatnick, L., Sitthi-Amorn, A., Bielamowicz, K. J., Nunez, F. A., Walsh, A. M., Hess, J., Rossoff, J., Elgarten, C., Myers, R., Saab, R., Basbous, et al
2023: JCO2301814
 - **Racial and Ethnic Differences in Acuity and Cumulative Frontline Organ Toxicity at the Time of Relapse in Pediatric Acute Myeloid Leukemia**
Zheng, D. J., Li, Y., Huang, Y. V., Aftandilian, C., Bona, K., Caywood, E., Collier, A. B., Gramatges, M., Heneghan, M. M., Henry, M., Lotterman, C., Maloney, K., Miller, et al
AMER SOC HEMATOLOGY.2023
 - **Survival Disparities By Frontline Clinical Trial Enrollment Status for Treatment of Pediatric Acute Myeloid Leukemia**
Zheng, D. J., van der Mei, E., Li, Y., Huang, Y. V., Aftandilian, C., Bona, K., Caywood, E., Collier, A. B., Gramatges, M., Heneghan, M. M., Henry, M., Lotterman, C., Maloney, et al
AMER SOC HEMATOLOGY.2023
 - **ASPARAGINASE-ASSOCIATED TOXICITY AND HYPERSENSITIVITY REACTIONS IN DOWN SYNDROME CHILDREN WITH ACUTE LYMPHOBLASTIC LEUKEMIA**
Van Huynh, Phillips, C., August, K., Guest, E., Morales, S., Aftandilian, C., Winger, B., Agrawal, A., Lin, C.
WILEY.2023
 - **Self-supervised machine learning using adult inpatient data produces effective models for pediatric clinical prediction tasks.** *Journal of the American Medical Informatics Association : JAMIA*
Lemmon, J., Guo, L. L., Steinberg, E., Morse, K. E., Fleming, S. L., Aftandilian, C., Pfohl, S. R., Posada, J. D., Shah, N., Fries, J., Sung, L.
2023
 - **Adjunctive Diagnostic Studies Completed Following Detection of Candidemia in Children: Secondary Analysis of Observed Practice from a Multicenter Cohort Study Conducted by the Pediatric Fungal Network.** *Journal of the Pediatric Infectious Diseases Society*
Wattier, R. L., Bucayu, R. F., Boge, C. L., Ross, R. K., Yildirim, I., Zaoutis, T. E., Palazzi, D. L., Vora, S. B., Castagnola, E., Avilés-Robles, M., Danziger-Isakov, L., Tribble, A. C., Sharma, et al
2023
 - **Outcomes in pediatric relapsed/refractory anaplastic large cell lymphoma: A multi-institutional retrospective analysis**
Marks, L., Ritter, V., Schultz, L. M., Lowe, E. J., Aftandilian, C., Relapsed ALCL Real Consortium
LIPPINCOTT WILLIAMS & WILKINS.2023
 - **Child and family perceptions of satisfaction with neutropenia management in pediatric acute myeloid leukemia.** *Pediatric blood & cancer*
Szymczak, J. E., Getz, K. D., Madding, R., Shuster, S., Aftandilian, C., Arnold, S. D., Collier, A. B., Gramatges, M. M., Henry, M., Hijija, N., Mian, A., Raetz, E., Fisher, et al
2023: e30420
 - **Symptom management care pathway adaptation process and specific adaptation decisions.** *BMC cancer*
Vettese, E., Sherani, F., King, A. A., Yu, L., Aftandilian, C., Baggott, C., Agarwal, V., Nagasubramanian, R., Kelly, K. M., Freyer, D. R., Orgel, E., Bradfield, S. M., Kyono, et al
2023; 23 (1): 350

- **Evaluation of Feature Selection Methods for Preserving Machine Learning Performance in the Presence of Temporal Dataset Shift in Clinical Medicine.** *Methods of information in medicine*
Lemmon, J., Guo, L. L., Posada, J., Pfohl, S. R., Fries, J., Fleming, S. L., Aftandilian, C., Shah, N., Sung, L.
2023
- **Survival Outcomes of Children with Relapsed or Refractory Myeloid Leukemia Associated with Down syndrome.** *Blood advances*
Raghuram, N., Nakashima, K., Ab Rahman, S., Antoniou, E., Skajaa, T., Merli, P., Verma, A., Rabin, K. R., Aftandilian, C., Kotecha, R. S., Cheuk, D. K., Jahnukainen, K., Kolenova, et al
2023
- **Role of peripheral blood MRD and 18F-FDG PET in the post-CAR relapse setting: a case study of discordant peripheral blood and bone marrow MRD.** *Journal for immunotherapy of cancer*
Schultz, L., Davis, K. L., Walkush, A., Baggott, C., Erickson, C., Ramakrishna, S., Aftandilian, C., Lacayo, N., Nadel, H. R., Oak, J., Mackall, C. L.
2023; 11 (2)
- **Development of clinical pathways to improve multidisciplinary care of high-risk pediatric oncology patients.** *Frontiers in oncology*
Reschke, A., Richards, R. M., Smith, S. M., Long, A. H., Marks, L. J., Schultz, L., Kamens, J. L., Aftandilian, C., Davis, K. L., Gruber, T., Sakamoto, K. M.
2022; 12: 1033993
- **Perspective Toward Machine Learning Implementation in Pediatric Medicine: Mixed Methods Study.** *JMIR medical informatics*
Alexander, N., Aftandilian, C., Guo, L. L., Plenert, E., Posada, J., Fries, J., Fleming, S., Johnson, A., Shah, N., Sung, L.
2022; 10 (11): e40039
- **Plasma Microbial Cell-Free DNA to Characterize Infection Vs Cytokine Release Syndrome in Pediatric Patients with B ALL after CAR T Cell Therapy**
Aftandilian, C., Bito, X., Berman, D. M., Duttagupta, R., Davis, K. L.
AMER SOC HEMATOLOGY.2022: 4681-4683
- **Influence of Household Income on Health-Related Quality of Life in Children with Acute Myeloid Leukemia**
Newman, H., Li, Y., Huang, Y., Elgarten, C. W., Myers, R. M., Ruiz, J., Leahy, A., Aftandilian, C., Arnold, S. D., Bona, K. O., Heneghan, M. M., Gramatges, M., Maloney, et al
AMER SOC HEMATOLOGY.2022: 11001-11003
- **CLOSTRIDIODES DIFFICILE INFECTION IN PEDIATRIC PATIENTS WITH CANCER AND HEMATOPOIETIC STEM CELL TRANSPLANT RECIPIENTS**
Loves, R., Haeusler, G., Lehrnbecher, T., Agyeman, P., Castagnola, E., Groll, A., Van De Wetering, M., Aftandilian, C., Phillips, B., Chirra, K., Schneider, C., Dupuis, L., Sung, et al
WILEY.2022
- **Management of Chronic Myeloid Leukemia in Children and Young Adults.** *Current hematologic malignancy reports*
Ford, M., Mauro, M., Aftandilian, C., Sakamoto, K. M., Hijiya, N.
2022
- **Risk of bacterial bloodstream infection does not vary by central-line type during neutropenic periods in pediatric acute myeloid leukemia.** *Infection control and hospital epidemiology*
Elgarten, C. W., Otto, W. R., Shenton, L., Stein, M. T., Horowitz, J., Aftandilian, C., Arnold, S. D., Bona, K. O., Caywood, E., Collier, A. B., Gramatges, M. M., Henry, M., Lotterman, et al
2022: 1-8
- **Breakthrough Trichosporon asahii in a Patient With New Diagnosis B-ALL on Echinocandin Prophylaxis: A Case Report.** *Journal of pediatric hematology/oncology*
Mahoney, D., Aftandilian, C.
2022; 44 (2): e514-e517
- **Neutropenia and Infection Prophylaxis in Childhood Cancer.** *Current oncology reports*
Villeneuve, S., Aftandilian, C.
2022
- **Evaluation of domain generalization and adaptation on improving model robustness to temporal dataset shift in clinical medicine.** *Scientific reports*

Guo, L. L., Pfohl, S. R., Fries, J., Johnson, A. E., Posada, J., Aftandilian, C., Shah, N., Sung, L.
2022; 12 (1): 2726

- **Comparison of the Transcriptomic Signatures in Pediatric and Adult CML.** *Cancers*
Youn, M., Smith, S. M., Lee, A. G., Chae, H., Spiteri, E., Erdmann, J., Galperin, I., Jones, L. M., Donato, M., Abidi, P., Bittencourt, H., Lacayo, N., Dahl, et al
1800; 13 (24)
- **Medical Outcomes, Quality of Life, and Family Perceptions for Outpatient vs Inpatient Neutropenia Management After Chemotherapy for Pediatric Acute Myeloid Leukemia.** *JAMA network open*
Getz, K. D., Szymczak, J. E., Li, Y., Madding, R., Huang, Y. V., Aftandilian, C., Arnold, S. D., Bona, K. O., Caywood, E., Collier, A. B., Gramatges, M. M., Henry, M., Lotterman, et al
2021; 4 (10): e2128385
- **Comparative Effectiveness of Echinocandins vs Triazoles or Amphotericin B Formulations as Initial Directed Therapy for Invasive Candidiasis in Children and Adolescents.** *Journal of the Pediatric Infectious Diseases Society*
Fisher, B. T., Zaoutis, T. E., Xiao, R., Wattier, R. L., Castagnola, E., Pana, Z. D., Fullenkamp, A., Boge, C. L., Ross, R. K., Yildirim, I., Palazzi, D. L., Danziger-Isakov, L., Vora, et al
2021
- **Systematic Review of Approaches to Preserve Machine Learning Performance in the Presence of Temporal Dataset Shift in Clinical Medicine.** *Applied clinical informatics*
Guo, L. L., Pfohl, S. R., Fries, J., Posada, J., Fleming, S. L., Aftandilian, C., Shah, N., Sung, L.
2021; 12 (4): 808-815
- **Psychosocial impacts of the COVID-19 pandemic on young adult cancer survivors and parents of children with cancer.**
Smith, S. M., Kumar, D., Benedict, C., Heathcote, L. C., Aftandilian, C., Bondy, M., Schapira, L.
LIPPINCOTT WILLIAMS & WILKINS.2021
- **Molecular and phenotypic diversity of CBL-mutated juvenile myelomonocytic leukemia.** *Haematologica*
Hecht, A., Meyer, J. A., Behnert, A., Wong, E., Chehab, F., Olshen, A., Hechmer, A., Aftandilian, C., Bhat, R., Choi, S. W., Chonat, S., Farrar, J. E., Fluchel, et al
2020; Online ahead of print
- **Paraneoplastic Neurologic Symptoms in a Pediatric Patient with Hodgkin Lymphoma.** *Cancer investigation*
Baniel, C. C., Donaldson, S. S., Aftandilian, C., Hiniker, S. M.
2020: 1–7
- **Summary of COVID-19 clinical practice adjustments across select institutions** *PEDIATRIC BLOOD & CANCER*
Schultz, L., Link, M. P., Rheingold, S., Hawkins, D. S., Dome, J. S., Wickiser, J., Kung, A. L., Henderson, T. O., Aftandilian, C.
2020
- **Summary of COVID-19 clinical practice adjustments across select institutions.** *Pediatric blood & cancer*
Schultz, L., Link, M. P., Rheingold, S., Hawkins, D. S., Dome, J. S., Wickiser, J., Kung, A. L., Henderson, T. O., Aftandilian, C.
2020: e28411
- **Home or Away from Home: A Multi-Institution Study Comparing Medical Outcomes, Patient Perspectives, and Health-Related Quality of Life for Outpatient Versus Inpatient Management after Chemotherapy for Pediatric Acute Myeloid Leukemia**
Getz, K. D., Li, Y., Szymczak, J. E., Aftandilian, C., Arnold, S. D., Bona, K. O., Caywood, E., Collier, A. B., Gramatges, M., Henry, M., Lotterman, C., Maloney, K., Mian, et al
AMER SOC HEMATOLOGY.2019
- **CONTINUATION OF TYROSINE KINASE INHIBITORS AFTER CHEMOTHERAPY IN PH plus ACUTE LYMPHOBLASTIC LEUKEMIA**
Smith, S., Aftandilian, C.
WILEY.2019
- **CHROMATIN REMODELING THERAPY AND CAPIZZI METHOTREXATE IN TREATMENT-RELATED MDS/AML**
Aftandilian, C., Sakamoto, K., Davis, K., Dahl, G., Lacayo, N.
WILEY.2019
- **Mucormycosis diagnosed during induction chemotherapy in five pediatric patients with acute lymphoblastic leukemia.** *Pediatric blood & cancer*

Aftandilian, C., Eguiguren, L., Mathew, R., Messner, A.
2019: e27834

- **Comparison of the Transcriptomic Signature of Pediatric Vs. Adult CML and Normal Bone Marrow Stem Cells**
Chae, H., Murphy, L. C., Donato, M., Lee, A. G., Sweet-Cordero, E., Abidi, P., Bittencourt, H., Lacayo, N. J., Dahl, G., Aftandilian, C., Davis, K. L., Huang, M., Sumarsono, et al
AMER SOC HEMATOLOGY.2018
- **Chromatin Remodeling Therapy and Capizzi Methotrexate in Treatment-Related MDS/AML**
Aftandilian, C., Sakamoto, K. M., Davis, K. L., Dahl, G., Lacayo, N. J.
AMER SOC HEMATOLOGY.2018
- **Multisite external validation of a risk prediction model for the diagnosis of blood stream infections in febrile pediatric oncology patients without severe neutropenia (vol 123, pg 3781, 2017) *CANCER***
Esbenshade, A. J., Zhao, Z., Aftandilian, C.
2018; 124 (8): 1841-1844
- **Identifying patient- and family-centered outcomes relevant to inpatient versus at-home management of neutropenia in children with acute myeloid leukemia *PEDIATRIC BLOOD & CANCER***
Szymczak, J. E., Getz, K. D., Madding, R., Fisher, B., Raetz, E., Hijjiya, N., Gramatges, M. M., Henry, M., Mian, A., Arnold, S. D., Aftandilian, C., Collier, A. B., Aplenc, et al
2018; 65 (4)
- **Identifying patient- and family-centered outcomes relevant to inpatient versus at-home management of neutropenia in children with acute myeloid leukemia. *Pediatric blood & cancer***
Szymczak, J. E., Getz, K. D., Madding, R., Fisher, B., Raetz, E., Hijjiya, N., Gramatges, M. M., Henry, M., Mian, A., Arnold, S. D., Aftandilian, C., Collier, A. B., Aplenc, et al
2018; 65 (4)
- **Multisite external validation of a risk prediction model for the diagnosis of blood stream infections in febrile pediatric oncology patients without severe neutropenia. *Cancer***
Esbenshade, A. J., Zhao, Z., Aftandilian, C., Saab, R., Wattier, R. L., Beauchemin, M., Miller, T. P., Wilkes, J. J., Kelly, M. J., Fernbach, A., Jeng, M., Schwartz, C. L., Dvorak, et al
2017
- **Pediatric Oncology Discharges With Febrile Neutropenia: Variation in Location of Care *JOURNAL OF PEDIATRIC HEMATOLOGY ONCOLOGY***
Alvarez, E., Chamberlain, L. J., Aftandilian, C., Saynina, O., Wise, P.
2017; 39 (1): E1-E7
- **Invasive Fungal Disease in Pediatric Patients Undergoing Allogeneic Hematopoietic Stem Cell Transplant *JOURNAL OF PEDIATRIC HEMATOLOGY ONCOLOGY***
Aftandilian, C., Weinberg, K., Willert, J., Kharbanda, S., Porteus, M., Maldonado, Y., Agarwal, R.
2016; 38 (7): 574-580
- **Invasive Fungal Disease in Pediatric Patients Undergoing Allogeneic Hematopoietic Stem Cell Transplant. *Journal of pediatric hematology/oncology***
Aftandilian, C., Weinberg, K., Willert, J., Kharbanda, S., Porteus, M., Maldonado, Y., Agarwal, R.
2016; 38 (7): 574-580
- **Evaluation of Febrile, Nonneutropenic Pediatric Oncology Patients with Central Venous Catheters Who Are Not Given Empiric Antibiotics *JOURNAL OF PEDIATRICS***
Bartholomew, F., Aftandilian, C., Andrews, J., Gutierrez, K., Luna-Fineman, S., Jeng, M.
2015; 166 (1): 157-162
- **Incidence and Mortality of Invasive Fungal Disease in Pediatric Patients after Allogeneic Stem Cell Transplant**
Aftandilian, C., Agarwal, R., Kharbanda, S., Weinberg, K. I.
ELSEVIER SCIENCE INC.2014: S165
- **Outcome in Pediatric Patients with a History of Fungal Disease Prior to Allogeneic Stem Cell Transplant**
Aftandilian, C., Agarwal, R., Kharbanda, S., Weinberg, K. I.

ELSEVIER SCIENCE INC.2014: S165

- **The Neutropenic Diet ... Still Ageless? C. Aftandilian Article Reviewed** *ONCOLOGY-NEW YORK*
Aftandilian, C. C., Milotich, C., Sakamoto, K. M.
2012; 26 (6): 586-589
- **The neutropenic diet... still ageless?** *Oncology (Williston Park, N.Y.)*
Aftandilian, C. C., Milotich, C., Sakamoto, K. M.
2012; 26 (6): 586-?
- **Burkitt Lymphoma With Pancreatic Involvement** *JOURNAL OF PEDIATRIC HEMATOLOGY ONCOLOGY*
Aftandilian, C. C., Friedmann, A. M.
2010; 32 (8): E338-E340
- **Group therapy for substance use disorders: What do we know?** *HARVARD REVIEW OF PSYCHIATRY*
Weiss, R. D., Jaffee, W. B., de Menil, V. P., Cogley, C. B.
2004; 12 (6): 339-350
- **Requiring remission of undue influence of weight and shape on self-evaluation in the definition of recovery for bulimia nervosa** *Annual Conference of the Academy-for-Eating-Disorders*
Cogley, C. B., Keel, P. K.
JOHN WILEY & SONS INC.2003: 200-210