


Name	Catherine M. Bollard	
Current Position	Professor of Pediatrics, and of Microbiology, Immunology and Tropical Medicine	
Country	USA	
Major Field	Hematology/Immunology	

Educational Background

Dr. Bollard received her medical degree (MBChB) at the University of Otago in Dunedin, New Zealand. She is board certified in both pediatrics and hematology and earned an MD (PhD equivalent) in Immunology from the Otago Medical School in Dunedin, New Zealand.

Professional Experience

Dr. Bollard is a Hematologist and Immunologist with an extensive background in immunotherapy for cancer, GvHD and post hematopoietic stem cell transplant viral infections. For the past 15 years, she has investigated the efficacy of virus and tumor specific T cells for the prophylaxis and treatment of viral infection after transplant and cancer, respectively. As the sponsor/PI on more than 10 investigator-initiated IND studies using immune based therapies for patients with malignancies or after stem cell transplant, she is highly experienced in developing and running clinical studies and developing translational bench to bedside studies. She has a long-standing research interest in immune therapies for cancer and virus associated diseases such as post-transplant infections, HIV, and EBV-associated lymphomas, and in conducting laboratory research and translation of novel cell therapeutics to the clinic.

Dr. Bollard was Director of the Pediatric Lymphoma Program at Texas Children's Hospital and in 2013 relocated to Washington, DC to head the new Program for Cell Enhancement and Technologies for Immunotherapy at Children's National Hospital (Children's National). She is currently a Tenured Professor of Pediatrics and of Microbiology, Immunology and Tropical Medicine at George Washington University, the Associate Center Director for Translational Research and Innovation at the GW Cancer Center, and Director of the Center for Cancer and Immunology Research at Children's National Research Institute. She has treated over 400 patients with novel cell therapeutics at Baylor College of Medicine and Children's National. She has mentored approximately 100 students, fellows and faculty over the course of her career and received the Darwin J. Prockop Mentoring Award from the International Society for Cellular Therapy in 2021.

Other Experience and Professional Memberships

Dr. Bollard is a member of the American Society for Clinical Investigation (ASCI), is a past president of the International Society for Cellular Therapy (ISCT) and is the current president of the Foundation for the Accreditation of Cellular Therapy (FACT). She was a

member of the Cellular, Tissues, and Gene Therapies Advisory Committee of the Food and Drug Administration (FDA) from 2015 to 2019 and in 2019 she became a member of the Frederick National Laboratory Advisory Committee (FNLAC) for the NIH and an ad hoc member of the Pediatric Oncologic Drugs Advisory Committee (ODAC) for the FDA. She was an associate editor for the journal Blood from 2014-2021 and is currently Editor in Chief of Blood Advances.

Primary Memberships:

Foundation for the Accreditation of Cellular Therapy (FACT):

Member with Emeritus Status (2021-present), President (2021-present), President-Elect (2020-2021), Chair Professional Relations Committee (2010-2018), Inspector Training Committee (2007-present)

International Society for Cellular Therapy (ISCT):

President (2016-2018), Chair, Strategic Advisory Committee (2018-2020), Immunotherapy Committee (2004-2011)

Advisory Committees:

Chair, Scientific and Strategic Advisory Group, National Marrow Donor Program (NMDP) (2020-present)

Frederick National Laboratory Advisory Committee (FNLAC), National Institutes of Health (NIH) (2018-present)

Cellular, Tissues and Gene Therapies Advisory Committee, Food and Drug Administration (FDA) (2015-2018)

Study Sections and DSMBs:

Gene/Cell Therapy DSMB, National Heart Lung and Blood Institute (NHLBI), National Institutes of Health (NIH) (2013-present)

Clinical Oncology Study Section, National Cancer Institute (NCI), National Institutes of Health (NIH) (2014-2018)

Gene and Drug Delivery Systems (GDD) Study Section, National Institutes of Health (NIH) (2009-2013)

Other Committees:

Reviewer, SEP, Loan Repayment Programs, National Heart Lung and Blood Institute (NHLBI), National Institutes of Health (NIH) (2014-present)

Chair, Non-Hodgkins Lymphoma Committee, Children's Oncology Group (COG) (2012-present)

Chair, Clinical Trials Subcommittee, Burkitt's Lymphoma Implementation Group, National Cancer Institute (NCI), National Institutes of Health (NIH) (2012-2013)

Cell Therapy Committee, Advancing Transfusion and Cellular Therapies (AABB) (2006-2011)

Board of Directors:

American Society for Blood and Marrow Transplantation (ASBMT) (2013-2017)

Foundation for the Accreditation of Cellular Therapy (FACT) (2010-2018)

Editorial Boards:

Editor-in-Chief, Blood Advances (2021-present)

Editorial Board, Bone Marrow Transplant and Biology of Blood and Marrow Transplant (2004-present)

Associate Editor, Blood (2014-2021)

Associate Editor, Cytotherapy (2010-2018)

Co-Editor in Chief, Pediatric Hematology-Oncology (2010-2014)

Editorial Board, Leukemia Lymphoma (2009-2014)

Editorial Board, International Journal of Pediatrics (2009-2013)

Main Scientific Publications

Selected Publications from >250 publications listed below. Complete list of publications in MyBibliography (total of >250):

<https://www.ncbi.nlm.nih.gov/myncbi/catherine.bollard.1/bibliography/public/>

Bollard CM, Rössig C, Huls MH, Massague J, Brenner MK, Heslop HE, Rooney CE. Adapting a TGF β related tumor immune evasion strategy to enhance anti-tumor immunity. Blood. 2002 May 1;99(9):3179-87. PMID: 11964281. Free article

Bollard CM, Straathof KC, Huls MH, Lacuesta KC, Brenner MK, Rooney CM, Heslop HE. Cytotoxic T lymphocyte therapy for Epstein-Barr virus+ Hodgkin's disease. J Exp Medicine. 2004 Dec 20;200(12):1623-3. PMID: PMC2211993

Leen AM, Myers GD, Sili U, Huls MH, Weiss H, Leung KS, Carrum G, Krance RA, Molldrem JJ, Gee AP, Brenner MK, Heslop HE, Rooney CM, Bollard CM. Monoculture-derived T lymphocytes specific for multiple viruses expand and produce clinically relevant effects in immunocompromised patients. Nat Med. 2006 Nov;12(10):1160-6. PMID: 16998485

Bollard CM, Gottschalk S, Leen AM, Weiss H, Straathof KC, Carrum G, Khalil M, Wu M, Huls MH, Chang CH, Gresik MV, Gee MP, Brenner MK, Rooney CM, Heslop HE. Complete responses of relapsed lymphoma following genetic modification of tumor-antigen presenting cells and T-lymphocyte transfer. Blood. 2007 Oct 15;110(8):2838-45. PMID: PMC2018666

Bollard CM, Gottschalk S, Torrano V, Diouf O, Ku S, Hazrat Y, Carrum G, Ramos C, Fayad L, Shpall EJ, Pro B, Liu H, Wu MF, Lee D, Sheehan AM, Zu Y, Gee AP, Brenner MK, Heslop HE, Rooney CM. Sustained complete responses in patients with lymphoma receiving autologous cytotoxic T lymphocytes targeting Epstein-Barr virus LMPs. J Clin Oncol. 2014 Mar 10;32(8):798-808. PMID: PMC3940538
Hanley PJ, Cruz CR, Savoldo B, Leen AM, Decker WK, Molldrem JJ, Liu H, Gee A, Rooney C, Heslop HE, Dotti G, Brenner MK, Shpall EJ, Bollard CM. Functionally active virus-specific T-cells that target CMV, adenovirus and EBV can be expanded from naïve T cell populations in cord blood and will target a broad range of viral epitopes. Blood. 2009;114(9):1958-67. PMID: PMC2738578

Leen AM, Christin A, Myers GD, Liu H, Cruz CR, Hanley PJ, Kennedy-Nasser AA, Leung KS, Gee AP, Krance RA, Brenner MK, Heslop HE, Rooney CM, Bollard CM. Cytotoxic T lymphocyte therapy with donor T cells prevents and treats adenovirus and Epstein-Barr virus infections after haploidentical and matched unrelated stem cell transplant. Blood. 2009 Nov 5;114(19):4283-92. PMID: PMC2774556

Weber G, Gerdemann U, Caruana I, Savoldo B, Hensel NF, Rabin KR, Shpall EJ, Melenhorst JJ, Leen AM, Barrett AJ, Bollard CM. Generation of multi-leukemia antigen-specific T cells to enhance the graft-versus-leukemia effect after allogeneic stem cell transplant. *Leukemia*. 2013;27(7):1538-47. PMID: PMC3867129

Kennedy-Nasser AA, Ku S, Castillo-Caro P, Hazrat Y, Wu MF, Liu H, Melenhorst J, Barrett AJ, Ito S, Foster A, Savoldo B, Yvon E, Carrum G, Ramos CA, Krance RA, Leung K, Heslop HE, Brenner MK, Bollard CM. Ultra low-dose IL-2 for GVHD prophylaxis after allogeneic hematopoietic stem cell transplantation mediates expansion of regulatory T cells without diminishing antiviral and antileukemic activity. *Clin Cancer Res*. 2014 Apr 15;20(8):2215-25. PMID: PMC3989436

Lam S, Sung J, Cruz C, Castillo-Caro P, Ngo M, Garrido C, Kuruc J, Archin N, Rooney C, Margolis D, Bollard C. Broadly-specific cytotoxic T cells targeting multiple HIV antigens are expanded from HIV+ Patients: Implications for immunotherapy. *Mol Ther*. 2015 Feb;23(2):387-95. PMID: PMC4445615

Hanley PJ, Melenhorst JJ, Nikiforow S, Scheinberg P, Blaney JW, Demmler-Harrison G, Cruz CR, Lam S, Krance RA, Leung KS, Martinez CA, Liu H, Douek DC, Heslop HE, Rooney CM, Shpall EJ, Barrett AJ, Rodgers JR, Bollard CM. CMV-specific T cells generated from naïve T cells recognize atypical epitopes and may be protective in vivo. *Sci Transl Med*. 2015 Apr 29;7(285):285ra63. PMID: PMC4479400

Bollard CM, Tripic T, Cruz CR, Dotti G, Gottschalk S, Torrano V, Dakhova O, Carrum G, Ramos CA, Liu H, Wu MF, Marcogliese AN, Barese C, Zu Y, Lee DY, O'Connor O, Gee AP, Brenner MK, Heslop HE, Rooney CM. Tumor-specific T-cells engineered to overcome tumor immune evasion induce clinical responses in patients with relapsed Hodgkin Lymphoma. *J Clin Oncol*. 2018 Apr 10;36(11):1128-1139. PMID: PMC5891126

Patel S, Chorvinsky E, Albiyani S, Cruz CR, Jones RB, Shpall EJ, Margolis DM, Ambinder RF, Bollard CM. HIV-specific T cells generated from naive T cells suppress HIV in vitro and recognize wide epitope breadths. *Mol Ther*. 2018 Jun 6;26(6):1435-1446. PMID: PMC5986979

Burga RA, Yvon E, Chorvinsky E, Fernandes R, Cruz CRY, Bollard CM. Engineering the TGFβ Receptor to Enhance the Therapeutic Potential of Natural Killer Cells as an Immunotherapy for Neuroblastoma. *Clin Cancer Res*. 2019 Jul 15;25(14):4400-4412. PMID: PMC6635028

Abraham AA, John TD, Keller MD, Cruz CRY, Salem B, Roesch L, Liu H, Hoq F, Grilley BJ, Gee AP, Dave H, Jacobsohn DA, Krance RA, Shpall EJ, Martinez CA, Hanley PJ, Bollard CM. Safety and feasibility of virus-specific T cells derived from umbilical cord blood in cord blood transplant recipients. *Blood Adv*. 2019 Jul 23;3(14):2057-2068. PMID: PMC6650740

Hont AB, Cruz CR, Ulrey R, O'Brien B, Stanojevic M, Datar A, Albiyani S, Saunders D, Hanajiri R, Panchapakesan K, Darko S, Banerjee P, Fortiz MF, Hoq F, Lang H, Wang Y,

Hanley PJ, Dome JS, Bollard CM, Meany HJ. Immunotherapy of relapsed and refractory solid tumors with ex vivo expanded multi-tumor associated antigen specific cytotoxic T lymphocytes: A phase I study. *J Clin Oncol.* 2019 Sep 10;37(26):2349-2359. PMID: PMC6804836

Hayashi RJ, Winter SS, Dunsmore KP, Devidas M, Chen Z, Wood BL, Hermiston ML, Teachey DT, Perkins SL, Miles RR, Raetz EA, Loh ML, Winick NJ, Carroll WL, Hunger SP, Lim MS, Gross TG, Bollard CM. Successful outcomes of newly diagnosed T lymphoblastic lymphoma: results from Children's Oncology Group AALL0434. *J Clin Oncol.* 2020 Sep 10;38(26):3062-3070. PMID: PMC7479761

Keller MD, Harris KM, Jensen-Wachspress MA, Kankate VV, Lang H, Lazarski CA, Durkee-Shock J, Lee PH, Chaudhry K, Webber K, Datar A, Terpilowski M, Reynolds EK, Stevenson EM, Val S, Shancer Z, Zhang N, Ulrey R, Ekanem U, Stanojevic M, Geiger A, Liang H, Hoq F, Abraham AA, Hanley PJ, Cruz CR, Ferrer K, Dropulic L, Gangler K, Burbelo PD, Jones RB, Cohen JI, Bollard CM. SARS-CoV-2-specific T cells are rapidly expanded for therapeutic use and target conserved regions of the membrane protein. *Blood.* 2020 Dec 17;136(25):2905-2917. PMID: PMC7746091.

Lowe EJ, Reilly AF, Lim MS, Gross TG, Saguilig L, Barkauskas DA, Wu R, Alexander S, Bollard CM. Brentuximab vedotin in combination with chemotherapy for pediatric patients with ALK+ALCL: results of COG Trial ANHL12P1. *Blood.* 2021 Jul 1;137(26):3595-3603. PMID: PMC8462406 (available in PMC on 2022-07-01).

Rivero-Hinojosa S, Grant M, Panigrahi A, Zhang H, Caisova V, Bollard CM, Rood BR. Proteogenomic discovery of neoantigens facilitates personalized multi-antigen targeted T cell immunotherapy for brain tumors. *Nat Commun.* 2021 Nov 18;12(1):6689. doi: 10.1038/s41467-021-26936-y. PMID: 34795224

Conway SR, Lazarski CA, Field NE, Jensen-Wachspress M, Lang H, Kankate V, Durkee-Shock J, Kinoshita H, Suslovic W, Webber K, Smith K, Cohen JI, Burbelo PD, Zhang A, Teach SJ, Ibeh T, Delaney M, DeBiasi RL, Keller MD, Bollard CM. SARS-CoV-2-Specific T Cell Responses Are Stronger in Children with Multisystem Inflammatory Syndrome Compared to Children with Uncomplicated SARS-CoV-2 Infection. *Front Immunol.* 2022 Jan 18;12:793197. doi: 10.3389/fimmu.2021.793197. eCollection 2021. PMID: 35116027 Free PMC article.