

DIVISION OF BIOSTATISTICS  
**ANNUAL REPORT 2020**



knowledge changing life



**BIOSTATISTICS**

# TABLE OF CONTENTS

---

EXECUTIVE SUMMARY .....	3
BIostatISTICS NEWS .....	4
BIostatISTICS FACULTY .....	6
BIostatISTICS STAFF .....	7
METHODOLOGIC RESEARCH .....	8
COLLABORATIVE APPLIED RESEARCH .....	9
BIostatISTICS CONSULTING SERVICE .....	10
2020 FUNDED GRANTS .....	11
APPENDIX 1: PRESENTATIONS .....	17
APPENDIX 2: COLLABORATIVE PAPERS & PUBLICATIONS.....	18

## EXECUTIVE SUMMARY

---

This document summarizes the activities of the Division of Biostatistics in the Institute for Health & Equity of the Medical College of Wisconsin for 2020.

In the midst of the pandemic that led to our working remotely since March, the Division of Biostatistics was extremely productive as evidenced by the extensive activities documented in this report. While not ideal circumstances, we adapted to new ways of collaborating with researchers across campus and beyond. Several of our faculty and staff quickly pivoted to support time-sensitive COVID-related research, including contributing to weekly COVID-19 reports for Milwaukee County.

The division supports the missions of the Medical College of Wisconsin through the graduate and continuing medical professional training in biostatistics; the support of funded research projects in 2020 valued at \$214 million in external funds for MCW; the prominence in the development of novel statistical methods for biomedical data; and the biostatistical consulting service.

In 2020, the division co-authored 144 papers including eleven notable papers in high impact clinical, biomedical, and statistical journals, (Journal of Clinical Oncology, JAMA, JAMA Oncology, Nature Medicine, Genetic Epidemiology, Scandinavian Journal of Statistics, Genes, Statistics in Medicine, Biostatistics), helped investigators successfully apply for 26 new grants worth \$42 million, and collaborated on 196 projects through the Biostatistics Consulting Service.

The division faculty have active research programs in various areas of biostatistics. The division is recognized worldwide for its research in survival analysis. Other areas of investigation include statistical genetics and bioinformatics, Bayesian statistics, big data methods, design and analysis of clinical trials, and multiple comparisons. The division faculty had 14 methodological papers appear in statistical literature as an online publication in 2020 (*See Appendix 1*).



## BIostatistics NEWS

---

We hired a new faculty member, Michael Martens, who was a previous graduate of our PhD program. Lexi Visotcky was promoted to Biostatistician III, and Rodney Sparapani was promoted to Associate Professor.



Alexis Visotcky, MS



Michael Martens, PhD



Rodney Sparapani, PhD

---

Drs. Ahn and Kim received new Cancer Center pilot funding in 2020 for a biostatistical methodologic research project titled “Semiparametric transformation models for competing risks under the case-cohort design.” Several other faculty continued ongoing methodologic research funded projects, including Dr. Hyun (Cancer Center), Dr. Banerjee (CTSI, NIH R21), Dr. Logan (FDA contract), and Drs. Logan, Laud, and Sparapani (National Marrow Donor Program and Office of Naval Research).

Ms. Rein and Dr. Ahn have been working, through an AHW grant with Kirsten Beyer, on weekly COVID-19 summary reports of Covid-19 activity in Milwaukee and surrounding counties to support local health departments. Weekly reports include COVID-19 rates for demographic groups, epidemiological calculations (growth rate, doubling time, 7-day reproductive number), summary of local testing activity, and detailed maps of cumulative and recent COVID-19 activity. Other analyses were performed to investigate specific events and research topics: COVID-19 activity following the April 2020 WI election; COVID-19 activity associated with outbreaks, workplaces, and group living quarters; Association of social determinants of health and COVID-19 spread in Milwaukee County. Public facing reports are posted here: [Milwaukee County EPI Data Reports](#)

Drs. Szabo, Logan, Tarima, and Sparapani, along with Spencer Huang from UW-Milwaukee, contributed to the successful renewal of the Clinical and Translational Science Award through their support of the Biostatistics, Epidemiology, and Research Design (BERD) function.

Dr. Banerjee contributed to a research study that generated a [press release](#) by the American Society for Radiation Oncology (ASTRO). The study found a need for better inclusion of patients from racial minority groups in radiation therapy trials.

Several of our division faculty members were involved in notable high impact publications.

- Dr. Zhang in the Journal of Clinical Oncology
- Dr. Szabo in Nature Medicine
- Dr. Hyun in JAMA
- Dr. Zhang and Dr. Ahn in JAMA Oncology
- Dr. Wang in Genetic Epidemiology
- Dr. Martens/Logan in Statistics in Medicine
- Dr. Hyun in Statistics in Medicine
- Dr. Kim/Zhang/Ahn in Scandinavian Journal of Statistics
- Dr. Sparapani/Tarima and Ms. Rein in Biostatistics
- Dr. Lin in Genes

Our MA program in Biostatistics and Data Science is recruiting students to enroll in Fall 2021.

Lastly, three PhD students, Charley Spanbauer, Yayun Xu, and Tucker Keuter, successfully defended their dissertations in 2020. Yayun Xu was also the winner of the 2020 KISS (Korean International Statistical Society) Outstanding Student Paper Award at the Joint Statistical Meetings. She presented her work titled “Efficient competing risks regression models under the generalized case-cohort design.”

# BIostatISTICS FACULTY

---



**Brent Logan, PhD**

*Director & Professor of Biostatistics*



**Prakash Laud, PhD**

*Professor of Biostatistics*



**Mei-Jie Zhang, PhD**

*Professor of Biostatistics*



**Kwang Woo Ahn, PhD**

*Associate Professor of Biostatistics*



**Anjishnu Banerjee, PhD**

*Assistant Professor of Biostatistics*



**Ruta Brazauskas, PhD**

*Associate Professor of Biostatistics*



**Raphael Fraser, PhD**

*Assistant Professor of Biostatistics*



**Noorie Hyun, PhD**

*Assistant Professor of Biostatistics*



**Soyoung Kim, PhD**

*Assistant Professor of Biostatistics*



**Masaki Lin, PhD**

*Assistant Professor of Biostatistics*



**Michael Martens, PhD**

*Assistant Professor of Biostatistics*



**Rodney Sparapani, PhD**

*Assistant Professor of Biostatistics*



**Aniko Szabo, PhD**

*Associate Professor & Director of Biostatistics Consulting Service*



**Sergey Tarima, PhD**

*Associate Professor of Biostatistics*



**Tao Wang, PhD**

*Associate Professor of Biostatistics*

## BIostatistics Consulting Analysts

---



**Dan Eastwood, MS**

*Biostatistics Analysts II*



**Joy Liu, MS**

*Biostatistics Analysts I*



**Lisa Rein, MS**

*Biostatistics Analysts II*



**Alexis Visotcky, MS**

*Biostatistics Analysts III*



**Rachel Wu, MS**

*Biostatistics Analysts I*



**Huaying Dong, MSPH**

*Biostatistics Analysts I*



**Bi Qing (Michelle)  
Teng, MS**

*Biostatistics Analysts I*

## BIostatistics Administrative Support

---



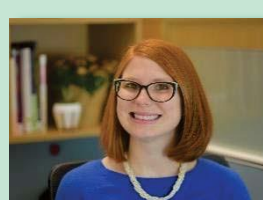
**Kellie Bialzik, MBA**

*Business Manager, Sr.*



**Jennifer Ward**

*Research Program  
Coordinator II*



**Chelsea Rowley**

*Administrative Assistant.*

## METHODOLOGIC RESEARCH

---

The division faculty have active research programs in various areas of biostatistics. The division is recognized worldwide for its research in survival analysis. Other areas of investigation include statistical genetics, Bayesian statistics, big data methods, design and analysis of clinical trials, and multiple comparisons. The division faculty had 14 methodological papers that appeared in statistical or scientific literature with an online publication date in 2020. (See list below). In addition to publications, the Division of Biostatistics also presented 11 methodological presentations/abstracts (See Appendix 1).

- Banerjee A, Choi H, DeVogel N, Xu Y, Yoganandan N, (2020). "Uncertainty Evaluations for Risk Assessment in Impact Injuries and Implications for Clinical Practice." *Frontiers in bioengineering and biotechnology*. PMID: 32850734. 8/28/2020.
- DeVogel N, Auer PL, Manansala R, Rau A, Wang T, (2020). "A unified linear mixed model for familial relatedness and population structure in genetic association studies." *Genetic epidemiology*. PMID: 33175443. 11/12/2020.
- Hostetler ZS, Hsu FC, Yoganandan N, Pintar FA, Banerjee A, Voo L, Gayzik FS, (2020). "An Improved Method for Developing Injury Risk Curves Using the Brier Metric Score." *Annals of biomedical engineering*. PMID: 33219439. 11/22/2020.
- Hyun N, Katki HA, Graubard BI, (2020). "Sample-weighted semiparametric estimation of cause-specific cumulative risk and incidence using left- or interval-censored data from electronic health records." *Statistics in medicine*. PMID: 32390254. 5/12/2020.
- Kim S, Logan B, Riches M, Chen M, Ahn KW, (2020). "Statistical Methods for Time-Dependent Variables in Hematopoietic Cell Transplantation Studies." *Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation*. PMID: 33017663. 10.6.2020.
- Kim S, Xu Y, Zhang MJ, Ahn KW, (2020). "Stratified proportional subdistribution hazards model with covariate-adjusted censoring weight for case-cohort studies." *Scandinavian Journal of Statistics*. Scopus ID: 2-s2.0-85085067973. 01.01.2020.
- Martens MJ, Logan BR, (2020). "A unified approach to sample size and power determination for testing parameters in generalized linear and time-to-event regression models." *Statistics in medicine*. PMID: 33210321.11/20/2020.
- Shi Y, Laud P, Neuner J. (2020). "A dependent Dirichlet process model for survival data with competing risks." *Lifetime data analysis*. PMID: 33044613; 10/13/2020.
- Sparapani RA, Rein LE, Tarima SS, Jackson TA, Meurer JR, (2020). "Non-parametric recurrent events analysis with BART and an application to the hospital admissions of patients with diabetes." *Biostatistics*. PMID: 30059992. PMCID: PMC6920553. 1/1/2020.
- Tarima S, Tuyishimire B, Sparapani R, Rein L, Meurer J, (2020). "Estimation Combining Unbiased and Possibly Biased Estimators." *Journal of Statistical Theory and Practice*. PMID: 32482395. 6.1.2020.
- Tarima S and Zenkova. (2020). "Use of Uncertain Additional Information in Newsvendor Models." 5<sup>th</sup> International Conference on Logistics Operations Management (GOL), Rabat, Morocco, pp. 106 doi: 10.1109/GOL49479.2020.9314751.
- Zeng X, Zong W, Lin CW, Fang Z, Ma T, Lewis DA, Enwright JF, Tseng GC. (2020). "Comparative Pathway Integrator: A Framework of Meta-Analytic Integration of Multiple Transcriptomic Studies for Consensual and Differential Pathway Analysis." *Genes*. PMID: 32599927. 7/1/2020.
- Zenkova Z, Musoni W, and Tarima S. (2020). "Accounting for deficit in ABC-XYZ analysis." 5<sup>th</sup> International Conference on Logistics Operations Management (GOC), Rabat, Morocco, pp. 1-6, doi: 10.1109/GOL49479.2020.9314731.
- Zhang Y., Zhang MJ. (2020) Inference of Transition Probabilities in Multi-State Models Using Adaptive Inverse Probability Censoring Weighting Technique. In: Zhao Y., Chen DG. (eds) *Statistical Modeling in Biomedical Research. Emerging Topics in Statistics and Biostatistics*. Springer, Cham. [https://doi.org/10.1007/978-3-030-33416-1\\_19](https://doi.org/10.1007/978-3-030-33416-1_19).



## COLLABORATIVE APPLIED RESEARCH

---

The Division of Biostatistics provides biostatistical support for collaborative applied research through three mechanisms:

1. Co-investigators on grants
2. Integration contract set up with Medical College departments, division, centers, institutes, or other research programs to provide upfront integrated biostatistical support to their members
3. Hourly effort recharge mechanism of the Biostatistics Consulting Service

Faculty and analysts in the Division of Biostatistics co-authored 130 medical publications in 2020 (Appendix 2). During this past year, they also provided statistical support through major grant effort for integration contract for the following research programs:

- The Center for International Blood & Marrow Transplant Research (CIBMTR)
  - Resource for Clinical Investigation in Blood and Marrow Transplantation (RCI BMT)
  - Blood and Marrow Transplant Clinical Trials Network (BMT CTN)
  - National Marrow Donor Program / Be the Match
- The Cardiovascular Center (CVC)
- The Medical College of Wisconsin Cancer Center
- The Clinical and Translational Science Institute (CTSI)
- The Neuroscience Research Center
- The Department of Orthopedic Surgery
- The Department of Physical Medicine and Rehabilitation
- Pediatric Emergency Medicine
- Department of Pediatrics (support for genomics researchers)
- The Department of Surgery
- The Division of Hematology / Oncology in the Department of Medicine
- Froedtert Hospital Pharmacy

# BIostatistics Consulting Service

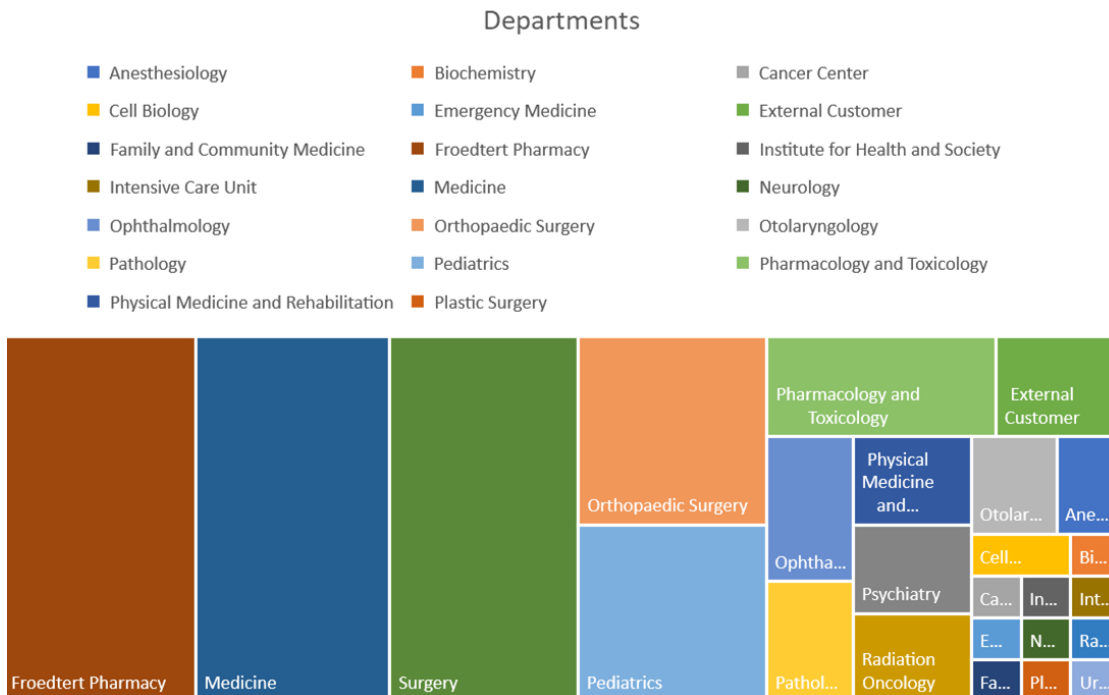
The Biostatistics Consulting Service (BCS) provides statistical support to investigators at the Medical College, its affiliates and the general public. The services provided include assistance with study design, data management, statistical analysis, interpretation of study results and assistance in grant preparation. This pre-arranged assistance is available through the BCS on a recharge basis or through pre-arranged contracts with departments and centers as described previously.

The BCS collaborated on 196 projects in 2020, totaling 2,460 hours of Biostatistics Faculty and Analyst collaboration time. Following is a breakdown of projects per MCW department or other affiliation.

The BCS provides drop-in consulting hours, similar to “faculty office hours” where staff biostatisticians designate weekly hours for investigators to receive free statistical consultations. To learn more, view the [Biostatistics Consulting Service](#) website.

## BIostatistics Consulting Service Number of Projects

Dept	Freq	Dept	Freq	Dept	Freq
Anesthesiology	3	Intensive Care	1	PM&R	5
Biochemistry	1	Medicine	34	Plastic Surgery	1
Cancer Center	1	Neurology	1	Psychiatry	5
Cell Biology	2	Ophthalmology	6	Radiation Onc	5
Emergency Medicine	1	Ortho	17	Radiology	1
External Customer	6	Otolaryngology	4	Surgery	33
Family Medicine	1	Pathology	5	Urologic Surgery	1
Froedtert Pharmacy	34	Pediatrics	16		
IHE	1	Pharm & Tox	11		



## 2020 FUNDED GRANTS

Grant Title	PI	Biostatistics Member	Direct Cost All Years
Stem cell therapeutic outcomes database	Rizzo, Douglas	Ahn, Kim, Wang, Logan, Zhang ^	\$ 18,612,473
A data resource for analyzing blood and marrow transplants	Horowitz, Mary	Ahn, Logan, Fraser, Brazauskas, Zhang, Wang, Kim ^	\$ 19,814,194
BMT clinical trials network data coordinating center	Horowitz, Mary	Logan, Fraser ^	\$ 49,055,339
Hematopoietic stem cell and cord transplantation	Petersdorf, Effie	Wang ^	\$ 102,114
NK cells, their receptors and unrelated donor transplant	Miller, Jeffrey S.	Wang ^	\$ 107,531
National Bone Marrow Donor Program	Wang, Tao	Wang ^	\$ 77,262
National Bone Marrow Donor Program	Brazauskas, Ruta	Brazauskas ^	\$ 48,528
National Bone Marrow Donor Program	Logan, Brent	Logan, Brazauskas ^	\$ 60,075
Endothelial function in human diabetes: role of mitochondrial fission proteins	Widlansky, Michael	Ahn ^	\$ 2,922,987
Primary immune deficiency disease treatment consortium	Logan, Brent	Logan, Brazauskas, Dong, Wu, Liu ^	\$ 953,699
Inhibition of oral tumorigenesis by Antitumor B	You, Ming	Logan, Banerjee ^	\$ 2,469,635
Biased chemokine receptor signaling in cancer progression	Dwinell, Michael	Zhang ^	\$ 1,617,768
Mechanism of radiation induced endovascular injury and mitigation via the Notch-D114 Pathway	Medhora, Meetha	Szabo ^	\$ 1,697,907
Mechanisms of upper gut and airways interaction program project grant	Shaker, Reza	Szabo ^	\$ 892,814
Center for Aids intervention research	Kelly, Jeff	Tarima ^	\$ 179,238

\* Denotes New Grants | ^ Denotes External Funding

Social Network Intervention to engage out of care PLH into treatment	Kelly, Jeff	Tarima ^	\$ 2,608,264
Increasing PrEP Use in High Risk Social Networks of African American MSM in underserved Low Intake Cities	Kelly, Jeff	Tarima ^	\$ 2,616,265
Stopping Tyrosine Kinase Inhibitors in CML patients (stop-TKI)	Atallah, Ehab	Zhang, Visotcky ^	\$ 3,564,157
Ensemble Prediction Models for Personalized Therapy	Liang, Mingyu	Laud, Wang ^	\$ 228,532
Men Moving forward: A Lifestyle Intervention for African American Prostate Cancer Survivors	Stolley, Melinda	Banerjee, Visotcky ^	\$ 2,721,172
Concussive Injury: Role of sleep restriction sleep aids, sedation and Caffeine	Everson, Carol	Szabo ^	\$ 1,244,735
Racism, Residential Racial Segregation, Breast Cancer Survival Disparities among Black, Hispanic and non Hispanic White Women	Beyer, Kirsten	Laud ^	\$ 1,584,267
Biomarkers for risk of chronic Graft-Versus-Host Disease Occurrence	Logan, Brent	Logan ^	\$ 39,508
Dental service utilization for Foreign and Native born children in America	Szabo, Aniko	Szabo ^	\$ 62,125
Brian Cancer Radio-Pathomics for Predicting Heterogeneous Cytology	LaViolette, Peter	Banerjee ^	\$ 1,132,514
Machine Learning Strategies for Optimizing Donor Selection [BART Projects]	Logan, Brent	Logan, Sparapani, Laud ^	\$ 90,830
REDIRECT (Research in Early Child Development to Improve Resiliency and Equity)	Meurer, John	Tarima, Sparapani, Eastwood, Rein	\$ 5,000,000
Rat Genome Database	Kwitek, Anne	Ahn, Lin ^	\$ 5,880,946
BIO PT WIAMan Project	Pintar, Frank	Banerjee ^	\$ 1,647,596
Head Spine Injury Prevention and Mitigation, Quantified Injury Criteria	Pintar, Frank	Banerjee ^	\$ 4,462,551
Bayesian learning algorithms for identifying and classifying heterogeneity of cell types in variety of solid tumors	Banerjee, Anjishnu	Banerjee, Student ^	\$ 275,000
Robust and Adaptive Design-based Algorithms for Risk Prediction (RADAR) in Impact Injury Environment	Banerjee, Anjishnu	Student	\$ 50,000

Incorporating patient reported outcomes into individualized prognostication tools for survival and quality of life in transplant patients.	Shaw, Bronwen	Brazauskas ^	\$ 160,744
Collaborative for Population Health Improvements (CPHI)	Nattinger, Ann	Laud	\$ 5,000,000
Renal Mechanism in Blood Pressure Control	Mattson, David	Laud/Wang ^	\$ 94,203
Analysis of Whole Genome Sequencing Data From an Infantile Hemangioma Syndrome Cohort	Siegel, Dawn	Lin ^	\$ 211,576
The Inflammatory Index as a Biomarker for Pain in Patients with Sickle Cell Disease	Brandow, Amanda	Lin, Szabo ^	\$ 1,749,425
Quantitative (Perfusion and Diffusion) MRI Biomarkers to Measure Glioma Response	Schmainda, Kathleen	Logan ^	\$ 1,956,709
Randomized Study of very low versus low dose busulfan in transplant for severe combined	Logan, Brent	Logan ^	\$ 78,312
Immuno-Oncology Translation Network (IOTN): Cellular Immunotherapy Data Resource (CIDR)	Pasquini, Marcelo	Logan, Zhang, Kim ^	\$ 6,620,597
A Phase I Clinical Trial Testing Feasibility of Hematopoietic Stem Cell Gene Therapy Using Platelet Factor VIII to Safely Improve Hemostasis for Severe Hemophilia A with Inhibitory Antibodies to FVIII	Wilcox, David	Logan, Brazauskas ^	\$ 6,471,892
MCW NCTN Lead Academic Participating Site	Wong, Stuart	Logan ^	\$ 3,357,357
Cardiovascular Roadmap: Bridging our Foundations to Signature	Benjamin, Ivor	Sparapani, Vistocky	\$ 4,000,000
Impact of L. plantarum 299v Supplementation on Endothelial Function and Systemic Inflammation	Widlansky, Michael	Sparapani ^	\$ 2,428,051
Radiation-induced modulation of TGFbeta signaling: Part 2	Medhora, Meetha	Szabo ^	\$ 1,138,354
Gigiigooinaan (Our Fish): A New Advisory to Promote Anishinaabe Health and Wellness	Dellinger, Matthew	Szabo, Visotcky ^	\$ 1,051,057
Preemie Prep for Parents (P3) Mobile app: Home Antenatal Prematurity Education	Basir, Mir Abdul	Szabo, Brazauskas ^	\$ 275,000

Effects of Head Impact Exposure During Contact Sport on Middle School and High School Athletes	Wang, Yang	Szabo ^	\$ 2,428,574
Cohesion Mutations in Acute Myelogenous Leukemia	Tarima, Sergey	Tarima ^	\$ 18,623
Prehabilitation of Frail Surgical Cancer Patients using Remote Ischemic Preconditioning	Durand, Matt	Tarima ^	\$ 275,000
Ischemic Conditioning and Improved Motor Function Post Stroke	Durand, Matt	Tarima ^	\$ 613,970
Role of RNA activation in Tumor Progression and Metastasis	Chaluvally-Raghavan, Pradeep	Banerjee ^	\$ 1,320,645
BMT/CTN 1301	Pasquini, Marcelo	Fraser/Logan ^	\$ 22,205
BMT/CTN 1803	Pasquini, Marcelo	Fraser ^	\$ 14,625
BMT/CTN 1401	Pasquin, Marcelo	Logan ^	\$ 22,205
BMT/CTN 1705	Hamadani, Mehdi	Logan ^	\$ 177,125
BMT/CTN 1901/1902 Celgene CAR T-Cell Therapy in Patients with High Risk Multiple Myeloma / CAR T-Cell Therapy to Upgrade Disease Response in Patients with Multiple Myeloma	Pasquini, Marcelo	Logan, Fraser ^	\$ 106,600
Prospective, Observational Long-Term, Non-Interventional Cohort Study of Recipients of Axicabtagene Ciloleucel for Treatment of Relapsed/Refractory Large B-Cell Lymphomas	Pasquini, Marcelo	Logan, Brazauskas ^	\$ 5,200,000
Plerixafor Prospective Registry Study	Hari, Parameswaran	Brazauskas ^	\$ 1,870,000
BMT/CTN 1506: A Multi-center Randomized, Double-Blind, Placebo-controlled Phase III Trial of the FLT3 Inhibitor Gilteritinib Administered as Maintenance Therapy Following Allogeneic Transplant for Patients with FLT3/ITD AML	Hamadani, Mehdi	Logan, Fraser ^	\$ 392,000
Genetic analysis of islet-infiltrating IL-21-expressing CD4 T cells in type 1 diabetes	Chen, Yi Guang	Lin ^	\$ 275,000

Estimation of treatment effect in hematologic oncology (HO) trials in the presence of subsequent therapies	Logan, Brent	Logan ^	\$ 73,026
Evaluating the Impact of Singing Interventions on Markers of Cardiovascular Health in Older Patients with Cardiovascular Disease	Kulinski	Sparapani, Visotcky ^	\$ 456,330
The histone demethylase JMJD1C in human acute myeloid leukemia	Zhu	Tarima ^	\$ 44,795
Prediction of Shoulder Injury for Disease Prevention in Children and Adults with Spinal Cord Injury Using Advanced Biomechanical Modeling and Diagnostic Imaging	Slavens, Brooke	Tarima ^	\$ 59,675
Ischemic Conditioning and Improved Motor Function Post Stroke	Knight, Jennifer	Wang ^	\$ 1,299,657
Annual anal sampling using DNA screening to identify men who have sex with men at increased risk for anal cancer	Nyitray, Alan	Wu ^	\$ 1,674,104
Intradialytic cerebral oximetry and cognitive decline in adults on hemodialysis	Wolfgram, Dawn	Laud ^	\$ 794,484
Community Empowerment and Lifestyle Intervention for Ethnic Minorities – COME ALIVE MILWAUKEE	Egede, Leonard	Hyun	\$ 2,800,000
Investigation of the Porin Function of B. Burgdorferi P66	Coburn, Jennifer	Hyun ^	\$ 275,000
Small molecule NO precursors as a bioactive source of NO in red light vasodilation	Lohr, Nicole	Hyun ^	\$ 1,468,633
Prediction models for HPV-clearance and progression-to-pre-/cancer of type-specific HPV infections using the EHRs from KPNC cervical cancer screening cohort	Hyun Noorie	Student	\$ 20,000
Dynamic, Responsive Spatiotemporal Epidemiologic Intelligence to support Decision Making in Milwaukee	Beyer, Kirsten	Ahn, Rein *	\$ 145,168
Role of RNA activation in Tumor Progression and Metastasis	Chaluvally-Raghavan, Pradeep	Banerjee * ^	\$ 1,320,645
Emotion Regulation in Complicated Grief	Goveas	Banerjee * ^	\$ 1,780,685
A Prospective, Multicenter, Observational Study to Evaluate Hematopoietic Progenitor Cell Mobilization in Patients with Newly Diagnosed Multiple Myeloma	Hari, Parameswaran	Brazauskas * ^	\$ 2,059,830

BMT CTN Data Coordinating Center	Horowitz, Mary	Fraser * ^	\$ 4,099,938
Can I regionalization improve outcomes and reduce disparities related to breast cancer care	Nattinger, Ann	Laud * ^	\$ 831,858
A self-organizing embryoid model of peri-implantation human development	Taniguchi, Kenichiro	Lin * ^	\$ 1,132,330
Shaping diabetogenic T cells by IL-27 in type 1 diabetes	Yi-Guang Chen	Lin * ^	\$ 1,626,250
Plasma-induced signatures as a measure disease heterogeneity and immunomodulation in T1D clinical trials	Hessner, Martin	Lin * ^	\$ 1,677,781
Reducing innate inflammation in new onset T1D with Lactobacillus plantarum	Hessner, Martin	Lin * ^	\$ 2,164,581
Analysis and validation of WGS results from a hemangioma syndrome cohort (CRI)	Siegel, Dawn	Lin * ^	\$ 75,000
Investigating the role of the microbiome and inflammation in acute and chronic pain in patients with sickle cell disease	Brandow, Amanda	Lin * ^	\$ 2,798,937
Innovation Pathways - Part 3	Medhora, Meetha	Szabo * ^	\$ 429,389
Deconstructing sleep disruption as a major risk factor for relapse in opioid use	Everson, Carol	Szabo * ^	\$ 566,465
Mobilizing 1000 Community Social Media Influencers for COVID-19 Prevention, Care, and Coping	Kelly, Jeff	Tarima *	\$ 498,931
Next-Generation Unrelated Donor Hematopoietic Cell Transplantation	Wang, Tao	Wang * ^	\$ 17,458
Clinical and Translational Science Award	Shaker, Reza	Ahn, Rein * ^	\$ 2,478,538
Clinical and Translational Science Award	Shaker, Reza	Logan, Sparapani, Szabo, Tarima * ^	\$ 14,349,740
Enabling Kinematic Joint Profiling Using MRI	Koch, Kevin	Banerjee * ^	\$ 301,000
Machine Learning accelerated online adaptive replanning	Li, X Allen	Zhang * ^	\$ 2,407,583
Analysis of serial QOL data on patients from the BMT-CTN Stamina (myeloma) trial	D'Souza, Anita	Brazauskas, Teng *	\$ 100,000



Primary Sensory neuron-targeted block of Cav3.2 for treatment of chronic neuropathic pain	Yu, Hongwei	Fraser * ^	\$785,904
Semiparametric transformation models for competing risks under the case-cohort design	Ahn, Kwang	Ahn, Kim, Student *	\$49,991
Baseline Symptoms and Adherence to Oral Breast Cancer Therapy among Older Women	Neuner, Joan	Laud * ^	\$275,000
Moving Forward in Health: promoting healthy eating and exercise among African American and Hispanic community members	Stolley, Melinda	Banerjee, Visotcky * ^	\$384,616
BMT CTN 1302	Pasquini, Marcelo	Logan * ^	\$22,205
<b>External Funds</b>			\$ 214,373,189
<b>New Grants</b>			\$ 42,379,823
<b>2020 Total of All Grants</b>			\$ 232,112,279

\* Denotes New Grants / ^ Denotes External Funding

## APPENDIX 1: METHODOLOGIC PRESENTATIONS

---

- Brazauskas R. and Le-Rademacher J. Statistical seminar “Observational studies”.  
13th International SCWD Conference on Cachexia, Sarcopenia and Muscle Wasting. 12/2020. (virtual presentation).
- He Y, Kim S, Mao L, and Ahn KW. “Semiparametric transformation model for clustered competing risks data.”  
ENAR spring meetings, Nashville, TN. March 2020 (oral presentation).
- Hyun N. “Sample-weighted semiparametric cause-specific cumulative risk and incidence of left- or interval-censored data from electronic health records”. ENAR, virtual conference: March 2020 (invited seminar talk).
- Hyun N. “Gumbel regression models for longitudinal continuous biomarker outcome subject to measurement error,” Joint Statistical Meetings (JSM) virtual conference meeting: August 2020 (contributed talk).
- Khanal M, Kim S, and Ahn KW. Proportional subdistribution hazards model with covariate-adjusted censoring for clustered data, ENAR Spring Meetings, Nashville, TN. March 2020 (Poster presentation).
- Li X, Sparapani R, Logan BR. Mixture Cure Rate models with BART. Joint Statistical Meetings (JSM) virtual conference meeting: August 2020 (contributed talk).
- Tarima S. and Flournoy N. (2020). "Choosing times of interim analyses in group sequential designs." GMDS and CEN 2020 (virtual presentation).
- Tarima S. (2020). “Use of additional information in statistical estimation.” 5<sup>th</sup> International Conference on Logistics Operations Management (GOL), Rabat, Morocco; 3/6/2020. (virtual presentation).
- Tarima S. and Zenkova Z. (2020). "Use of Uncertain Additional Information in Newsvendor Models".  
Northeastern Illinois University, Chicago, Math Department 03/2020. (invited talk).
- Xu Y, Ahn KW, Zhang MK, and Kim S. Efficient competing risks regression models under the generalized case-cohort design, 2020 Joint Statistical Meetings. August 2020. (2020 KISS Outstanding Student Paper Award, (oral presentation).
- Zhang MJ, Zheng C and Hu Z. “Sensitivity Analysis: E-value based on adjusted survival probabilities for time-to-event data research.” Invite Section, 2020 Computational and Methodological Statistics. London, UK, December 2020 (virtual Conference).

## APPENDIX 2: COLLABORATIVE PAPERS & PUBLICATIONS

---

Abid MB, Hamadani M, Szabo A, Hari PN, Graham MB, et al. (2020). “Severity of Cytokine Release Syndrome and Its Association with Infections after T Cell-Replete Haploidentical Related Donor Transplantation.” *Journal of the American Society for Blood and Marrow Transplantation* PMID: 32562858; 6/21/2020.

Ahmed S, Ghosh N, Ahn KW, Khanal M, Litovich C, Mussetti A, et al. (2020). “Impact of type of reduced-intensity conditioning regimen on the outcomes of allogeneic haematopoietic cell transplantation in classical Hodgkin lymphoma.” *British journal of hematology*. PMID: 32314807; 4/22/2020.

Algwaiz G, Aljurf M, Koh M, Horowitz MM, Ljungman P, et al. (2020). “Real-World Issues and Potential Solutions in Hematopoietic Cell Transplantation during the COVID-19 Pandemic: Perspectives from the Worldwide Network for Blood and Marrow Transplantation and Center for International Blood and Marrow Transplant Research Health Services and International Studies Committee.” *Journal of the American Society for Blood and Marrow Transplantation*. PMID: 32717432; 7/28/2020.

Amirkhanian YA, Kelly JA, Kuznetsova AV, DiFranceisco WJ, Tarima SS, et al. (2020) “Mobilizing individual social capital resources for HIV care support: results of a pilot intervention in St. Petersburg, Russia.” *AIDS Care*. PMID: 32162527; 3/13/2020.

Arnold SD, Brazauskas R, He N, Li Y, Hall M, Atsuta Y, et al. (2020). “The Impact of Donor Type on Outcomes and Cost of Allogeneic Hematopoietic Cell Transplantation for Pediatric Leukemia: A Merged Center for International Blood and Marrow Transplant Research and Pediatric Health Information System Analysis.” *Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation*. PMID: 32464284; 5/29/2020.

Arocho-Quinones EV, Lew SM, Handler MH, Tovar-Spinoza Z, Smyth M, Bollo R, et al. (2020). “Magnetic resonance-guided stereotactic laser ablation therapy for the treatment of pediatric brain tumors: a multiinstitutional retrospective study.” *Journal of neurosurgery. Pediatrics*. PMID: 32217793; 3/29/2020.

Atallah E, Schiffer CA, Radich JP, Weinfurt KP, Zhang MJ, et al. (2020). “Assessment of Outcomes After Stopping Tyrosine Kinase Inhibitors Among Patients with Chronic Myeloid Leukemia: A Nonrandomized Clinical Trial.” *JAMA oncology*. PMID: 33180106; 11/13/2020.

Badar T, Epperla N, Szabo A, Borson S, Vaughn J, George G, et al. (2020). “Trends in postrelapse survival in classic Hodgkin lymphoma patients after experiencing therapy failure following auto-HCT.” *Blood advances*. PMID: 31899797; 1/4/2020.

Badar T, Hari P, Dávila O, Fraser R, Wirk B, Dhakal B, et al. (2020). “African Americans with translocation t(11;14) have superior survival after autologous hematopoietic cell transplantation for multiple myeloma in comparison with Whites in the United States.” *Cancer*. PMID: 32966625; 9/24/2020.

Badar T, Szabo A, Advani A, Wadleigh M, Arslan S, et al. (2020). “Real-world outcomes of adult B-cell acute lymphocytic leukemia patients treated with blinatumomab.” *Blood advances*. PMID:

32453836; 5/27/2020.

- Badar T, Szabo A, Dinner S, Liedtke M, Burkart M, et al. (2020). "Sequencing of novel agents in relapsed/refractory B-cell acute lymphoblastic leukemia: Blinatumomab and inotuzumab ozogamicin may have comparable efficacy as first or second novel agent therapy in relapsed/refractory acute lymphoblastic leukemia." *Cancer*. PMID: 33259056; 12/2/2020.
- Badar T, Szabo A, Sallman D, Komrojki R, Lancet J, et al. (2020). "Interrogation of molecular profiles can help in differentiating between MDS and AML with MDS-related changes." *Leukemia & lymphoma*. PMID: 32013644; 2/6/2020.
- Beam DR, Szabo A, Olson J, Hoffman L, Beyer KMM. (2020). "Vacant lot to community garden conversion and crime in Milwaukee: a difference-in-differences analysis." *Injury prevention: journal of the International Society for Child and Adolescent Injury Prevention*. PMID: 32912967; 9/12/2020.
- Bejanyan N, Zhang M, Bo-Subait K, Brunstein C, Wang H, Warlick ED, et al. (2020). "Myeloablative Conditioning for Allogeneic Transplantation Results in Superior Disease-Free Survival for Acute Myelogenous Leukemia and Myelodysplastic Syndromes with Low/Intermediate but not High Disease Risk Index: A Center for International Blood and Marrow Transplant Research Study." *Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation*. PMID: 33010430; 10/4/2020.
- Bemanian A, Ahn KW, O'Brien M, Rausch DJ, Weston B, Beyer KMM. (2020). "Investigating the Trajectory of the COVID-19 Outbreak in Milwaukee County and Projected Effects of Relaxed Distancing." *WMJ : official publication of the State Medical Society of Wisconsin*. PMID: 32659059; 7/14/2020.
- Bergom C, Rubenstein J, Wilson JF, Welsh A, Ibrahim EH, Prior P, et al. (2020). "A Pilot Study of Cardiac MRI in Breast Cancer Survivors After Cardiotoxic Chemotherapy and Three-Dimensional Conformal Radiotherapy." *Frontiers in oncology*. PMID: 33178571; 11/13/2020.
- Bhasin B, Szabo A, Wu R, Saad ER, Hari P, et al. (2020). "Monoclonal Gammopathies After Renal Transplantation: A Single-center Study." *Clinical lymphoma, myeloma & leukemia*. PMID: 32340914; 4/29/2020.
- Bobholz SA, Lowman AK, Barrington A, Brehler M, McGarry S, Cochran EJ, et al. (2020). "Radiomic Features of Multiparametric MRI Present Stable Associations with Analogous Histological Features in Patients With Brain Cancer." *Tomography (Ann Arbor, Mich.)*. PMID: 32548292; 6/18/2020.
- Brandt AC, McNally L, Lorimer EL, Unger B, Koehn OJ, et al. (2020). "Splice switching an oncogenic ratio of SmgGDS isoforms as a strategy to diminish malignancy." *Proceedings of the National Academy of Sciences of the United States of America*. PMID: 32019878; 2/6/2020.
- Brazauskas R, Scigliuolo GM, Wang HL, Cappelli B, Ruggeri A, et al. (2020). "Risk score to predict event-free survival after hematopoietic cell transplant for sickle cell disease." *Blood*. PMID: 32518950; 6/11/2020.
- Brousseau DC, Muslu CS, Visotcky A, Fraser R, Kavanagh PL, et al. (2020). "Teaching Versus Nonteaching Hospitals: Where Children with Sickle Cell Disease Receive Their Emergency

- Department Care.” *Journal of pediatric hematology/oncology*. PMID: 32404689; 5/15/2020.
- Buchbinder D, Brazauskas R, Bo-Subait K, Ballen K, Parsons S, John T, Hahn T, et al. (2020). “Predictors of lost to follow-up among pediatric and adult hematopoietic cell transplant survivors: A report from the Center for International Blood and Marrow Transplant Research.” *Biology of Blood and Marrow Transplantation*.
- Bukowy JD, Foss H, McGarry SD, Lowman AK, Hurrell SL, et al. (2020). “Accurate segmentation of prostate cancer histomorphometric features using a weakly supervised convolutional neural network.” *Journal of medical imaging (Bellingham, Wash.)*. PMID: 33062803; 10/17/2020.
- Burroughs LM, Petrovic A, Brazauskas R, Liu X, Griffith LM, et al. (2020). “Excellent outcomes following hematopoietic cell transplantation for Wiskott-Aldrich syndrome: a PIDTC report.” *Blood*. PMID: 32268350; 4/9/2020.
- Byonanebye JE, Brazauskas R, Tumwesigye NM, Young S, May T, Cassidy L. (2020). “Geographic Variation and Risk Factors for Teenage Pregnancy in Uganda” *African Health Sciences*.
- Camacho-Bydume C, Wang T, Sees JA, Fernandez-Viñã M, Abid MB, et al. (2020). “Specific Class I HLA Supertypes but Not HLA Zygosity or Expression Are Associated with Outcomes following HLA-Matched Allogeneic Hematopoietic Cell Transplant: HLA Supertypes Impact Allogeneic HCT Outcomes.” *Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation*. PMID: 33053450; 10/15/2020.
- Chan AY, Leiding JW, Liu X, Logan BR, Burroughs LM, Allenspach EJ, et al. (2020). “Hematopoietic Cell Transplantation in Patients With Primary Immune Regulatory Disorders (PIRD): A Primary Immune Deficiency Treatment Consortium (PIDTC) Survey.” *Frontiers in immunology*. PMID: 32153572; 3/11/2020.
- Chaves G, Turk-Adawi K, Supervia M, Santiago de Araújo Pio C, Abu-Jeish AH, et al. (2020). “Cardiac Rehabilitation Dose Around the World: Variation and Correlates.” *Circulation. Cardiovascular quality and outcomes*. PMID: 31918580; 1/11/2020.
- Chhabra S, Narra RK, Wu R, Szabo A, George G, Michaelis LC, et al. (2020). “Fludarabine/Busulfan Conditioning-Based Allogeneic Hematopoietic Cell Transplantation for Myelofibrosis: Role of Ruxolitinib in Improving Survival Outcomes.” *Biology of blood and marrow transplantation: journal of the American Society for Blood and Marrow Transplantation*. PMID: 31982543; 1/27/2020.
- Chhabra S, Szabo A, Glisch C, George G, Narra RK, et al. (2020). “Relapse after Allogeneic Hematopoietic Cell Transplantation for Multiple Myeloma: Survival Outcomes and Factors Influencing Them.” *Biology of blood and marrow transplantation: journal of the American Society for Blood and Marrow Transplantation*. PMID: 32135202; 3/7/2020.
- Chhabra S, Thapa B, Szabo A, Konings S, D'Souza A, Dhakal B, et al. (2020). “Utilization and Cost Implications of Hematopoietic Progenitor Cells Stored for a Future Salvage Autologous Transplantation or Stem Cell Boost in Myeloma Patients.” *Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation*. PMID: 32717431; 7/28/2020.
- Chhabra S, Visotcky A, Pasquini MC, Zhu F, Tang X, Zhang MJ, et al. (2020). “Ixazomib for Chronic

- Graft-versus-Host Disease Prophylaxis following Allogeneic Hematopoietic Cell Transplantation.” *Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation*. PMID: 32653622; 7/13/2020.
- Cyr AK, Colorado BS, Uihlein MJ, Garlanger KL, Tarima SS, Lee K. (2020). “Prevalence of lateral epicondylitis in veteran manual wheelchair users participating in adaptive sports.” *The journal of spinal cord medicine*. PMID: 32527209; 6/13/2020.
- Dandoy CE, Davies SM, Ahn KW, He Y, Kolb AE, Levine J, et al. (2020). “Comparison of total body irradiation versus non- total body irradiation containing regimens for de novo acute myeloid leukemia in children.” *Haematologica*. PMID: 32554562; 6/20/2020.
- Dandoy CE, Kim S, Chen M, Ahn KW, Ardura MI, Brown V, Chhabra S, et al. (2020). “Incidence, Risk Factors, and Outcomes of Patients Who Develop Mucosal Barrier Injury-Laboratory Confirmed Bloodstream Infections in the First 100 Days After Allogeneic Hematopoietic Stem Cell Transplant.” *JAMA network open*. PMID: 31913492; 1/9/2020.
- Demarco M, Hyun N, Carter-Pokras O, Raine-Bennett TR, Cheung L, et al. (2020). “A study of type-specific HPV natural history and implications for contemporary cervical cancer screening programs.” *EClinicalMedicine*. PMID: 32510043; 6/9/2020.
- Dhakal B, D'Souza A, Callander N, Chhabra S, Fraser R, Davila O, et al. (2020). “Novel prognostic scoring system for autologous hematopoietic cell transplantation in multiple myeloma” *Br J Haematol*. PMID: 33094839; 10/24/2020.
- Dhakal B, Miller S, Rein L, Pathak LK, Gloria L, Szabo A, et al. (2020). “Trends in the use of therapeutic plasma exchange in multiple myeloma.” *Journal of clinical apheresis*. PMID: 3251686; 6/10/2020.
- Dhakal B, Narra RK, Giri S, Szabo A, Smunt TL, et al. (2020). “Association of adverse events and associated cost with efficacy for approved relapsed and/or refractory multiple myeloma regimens: A Bayesian network meta-analysis of phase 3 randomized controlled trials.” *Cancer*. PMID: 32154922; 3/11/2020.
- Dhakal B, Patel S, Girnius S, Bachegowda L, Fraser R, Davila O, et al. (2020). “Hematopoietic cell transplantation utilization and outcomes for primary plasma cell leukemia in the current era.” *Leukemia*. PMID: 32313109; 4/22/2020.
- Dhakal B, Rein L, Szabo A, (2020) “Padmanabhan A Use of IV Immunoglobulin G in Heparin-Induced Thrombocytopenia Patients Is Not Associated with Increased Rates of Thrombosis: A Population-Based Study.” *Chest*. PMID: 32224075; 4/1/2020.
- Dhakal B, Wang T, Kuxhausen M, Zhu F, Taylor C, Spellman SR, et al. (2020). “Prognostic impact of serum CXC chemokine ligands 4 and 7 on myelodysplastic syndromes post allogeneic hematopoietic cell transplant.” *Leukemia & lymphoma*. PMID: 32924688; 9/15/2020.
- Donohue NK, Tarima SS, Durand MJ, Wu H. (2020). “Comparing pain relief and functional improvement between methylprednisolone and dexamethasone lumbosacral transforaminal epidural steroid injections: a self-controlled study.” *The Korean journal of pain*.” PMID: 32235020; 4/3/2020.

- Dorsey MJ, Wright NAM, Chaimowitz NS, D'Ávila Saldaña BJ, Miller H, Keller MD, et al. (2020). "Infections in Infants with SCID: Isolation, Infection Screening, and Prophylaxis in PIDTC Centers." *Journal of Clinical Immunology*; 1/1/2020.
- D'Souza A, Szabo A, Flynn KE, Dhakal B, Chhabra S, et al. (2020). "Adjuvant doxycycline to enhance anti-amyloid effects: Results from the dual phase 2 trial." *EClinicalMedicine*. PMID: 32529175; 6/13/2020.
- Eapen M, Zhang MJ, Tang XY, Lee SJ, Fei MW, Wang HL, et al. (2020). "Hematopoietic Cell Transplantation with Cryopreserved Grafts for Severe Aplastic Anemia." *Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation*. PMID: 32389803; 5/12/2020.
- Epperla N, Ahn KW, Khanal M, Litovich C, Ahmed S, et al. (2020). "Impact of Reduced-Intensity Conditioning Regimens on Outcomes in Diffuse Large B Cell Lymphoma Undergoing Allogeneic Transplantation." *Biology of blood and marrow transplantation: journal of the American Society for Blood and Marrow Transplantation*. PMID: 32956819; 9/22/2020.
- Epperla N, Li A, Logan B, Fretham C, Chhabra S, Aljurf M, Chee L, et al. (2020). "Incidence, Risk Factors for and Outcomes of Transplant-Associated Thrombotic Microangiopathy." *British journal of haematology*. PMID: 32124435; 3/4/2020.
- Ewy M, Aqeel M, Kozeniecki M, Patel K, Banerjee A, et al. (2020). "Impact of Enteral Feeding on Vasoactive Support in Septic Shock: A Retrospective Observational Study." *Nutrition in clinical practice : official publication of the American Society for Parenteral and Enteral Nutrition*. PMID: 32134146; 3/7/2020.
- Farhadfar N, Hsu JW, Logan BR, Sees JA, Chitphakdithai P, Sugrue MW, et al. (2020). "Weighty choices: selecting optimal G-CSF doses for stem cell mobilization to optimize yield." *Blood advances*. PMID: 32092138; 2/25/2020.
- Farhadfar N, Murthy HS, Logan BR, Sees JA, Ayas M, Battiwalla M, et al. (2020). "Impact of autologous blood transfusion after bone marrow harvest on unrelated donor's health and outcome: a CIBMTR analysis." *Bone marrow transplantation*. PMID: 32355289; 5/2/2020.
- Fatobene G, Rocha V, St Martin A, Hamadani M, Robinson S, et al. (2020). "Nonmyeloablative Alternative Donor Transplantation for Hodgkin and Non-Hodgkin Lymphoma: From the LWP-EBMT, Eurocord, and CIBMTR." *Journal of clinical oncology : official journal of the American Society of Clinical Oncology*, PMID: 32031876; 2/8/2020.
- Frigault MJ, Nikiforow S, Mansour MK, Hu ZH, Horowitz MM, et al. (2020). "Tocilizumab not associated with increased infection risk after CAR T-cell therapy: implications for COVID-19?" *Blood*. PMID: 32457999; 5/28/2020.
- Fuchs EJ, O'Donnell PV, Eapen M, Logan BR, Antin JH, Dawson P, et al. (2020). "Double unrelated umbilical cord blood versus HLA-haploidentical bone marrow transplantation (BMT CTN 1101)." *Blood*. PMID: 32870242; 9/2/2020.
- Gadalla SM, Wang Y, Wang T, Onabajo OO, Banday AR, et al. (2020). "Association of donor IFNL4 genotype and non-relapse mortality after unrelated donor myeloablative haematopoietic stem-cell transplantation for acute leukaemia: a retrospective cohort study" *The Lancet Haematology*.

10/1/2020.

- Gadalla SM, Wang Y, Wang T, Onabajo OO, Banday AR, et al. (2020). "Donor IFNL4 genotype and non-relapse mortality after unrelated donor myeloablative haematopoietic stem-cell transplantation for acute leukaemia: a retrospective cohort study." *The Lancet. Haematology*. PMID: 32976751; 9/26/2020.
- Gartz M, Lin CW, Sussman MA, Lawlor MW, Strande JL. (2020). "Duchenne muscular dystrophy (DMD) cardiomyocyte-secreted exosomes promote the pathogenesis of DMD-associated cardiomyopathy." *Disease models & mechanisms*. PMID: 33188007; 11/15/2020.
- Ghosh N, Ahmed S, Ahn KW, Khanal M, Litovich C, Aljurf M, et al. (2020). "Association of Reduced-Intensity Conditioning Regimens with Overall Survival Among Patients with Non-Hodgkin Lymphoma Undergoing Allogeneic Transplant." *JAMA oncology*. PMID: 32496525; 6/5/2020.
- Gowin K, Ballen K, Ahn KW, Hu ZH, Ali H, Arcasoy MO, et al. (2020). "Survival following allogeneic transplant in patients with myelofibrosis." *Blood advances*. PMID: 32384540; 5/10/2020.
- Gupta V, Kennedy JA, Capo-Chichi JM, Kim S, Hu ZH, et al. (2020). "Genetic factors rather than blast reduction determine outcomes of allogeneic HCT in BCR-ABL-negative MPN in blast phase." *Blood Adv*. PMID: 33170935; 11/11/2020.
- Gupta V, Kim S, Hu ZH, Liu Y, Aljurf M, Bacher U, Beitinjaneh A, et al. (2020). "Comparison of outcomes of HCT in blast phase of BCR-ABL12 MPN with de novo AML and with AML following MDS." *Blood advances*. 10/6/2020.
- Guru Murthy GS, Szabo A, Michaelis L, Carlson KS, Runaas L, et al. (2020). "Improving Outcomes of Acute Promyelocytic Leukemia in the Current Era: Analysis of the SEER Database." *Journal of the National Comprehensive Cancer Network : JNCCN*. PMID: 32023530; 2/6/2020.
- Hackett KA, Ziegler MC, Olson JA, Bizub J, Stolley M, Szabo A, et al. (2020). "Nature Mentors: a program to encourage outdoor activity and nature engagement among urban youth and families." *Journal of Adventure Education and Outdoor Learning*. 1/1/2020.
- Hagen P, D'Souza A, Hari P, Davila O, Zhang MJ, et al. (2020). "Busulfan, melphalan, and bortezomib compared to melphalan as a high dose regimen for autologous hematopoietic stem cell transplantation in multiple myeloma: long term follow up of a novel high dose regimen." *Leukemia & lymphoma*. PMID: 32865474; 9/1/2020.
- Hahn B, Anderson P, Lu Z, Danner R, Zhou Z, et al. (2020). "BBB07 contributes to, but is not essential for, *Borrelia burgdorferi* infection in mice." *Microbiology (Reading, England)*. PMID: 32936070; 9/17/2020.
- Hamadani M, Khanal M, Ahn KW, Litovich C, Chow VA, Eghtedar A, et al. (2020). "Higher Total Body Irradiation Dose Intensity in Fludarabine/TBI-Based Reduced-Intensity Conditioning Regimen Is Associated with Inferior Survival in Non-Hodgkin Lymphoma Patients Undergoing Allogeneic Transplantation." *Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation*. PMID: 32165327; 3/14/2020.
- Hamadani M, Litovich C, Ahn KW. (2020). "Allogeneic Transplant Conditioning Regimens for Patients with Non-Hodgkin Lymphoma-Reply." *JAMA oncology*. PMID: 33151256; 11/6/2020.



- Hamadani M, Zhang MJ, Tang XY, Fei M, Brunstein C, Chhabra S, et al. (2020). "Graft Cryopreservation Does Not Impact Overall Survival after Allogeneic Hematopoietic Cell Transplantation Using Post-Transplantation Cyclophosphamide for Graft-versus-Host Disease Prophylaxis." *Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation*. PMID: 32283185; 4/14/2020.
- Herr M, Curtis R, Tucker M, Tecca H, Engels E, Cahoon E, Battiwalla M, et al. (2020). "Risk factor for the development of cutaneous melanoma after allogeneic hematopoietic cell transplantation." *Journal of the American Academy of Dermatology*. 83(3): 762-772, 2020.
- Ho VT, Martin AS, PÃarez WS, Steinert P, Zhang MJ, et al. (2020). "Prior Gemtuzumab Ozogamicin Exposure in Adults with Acute Myeloid Leukemia Does Not Increase Hepatic Veno-Occlusive Disease Risk after Allogeneic Hematopoietic Cell Transplantation: A Center for International Blood and Marrow Transplant Research Analysis." *Biology of blood and marrow transplantation: journal of the American Society for Blood and Marrow Transplantation*. PMID: 31891815; 1/1/2020.
- Holt JM, Cusatis R, Winn A, Asan O, Spanbauer C, Williams JS, et al. (2020). "The Impact of Previsit Contextual Data Collection on Patient-Provider Communication and Patient Activation: Study Protocol for a Randomized Controlled Trial." *JMIR research protocols*. PMID: 32965223; 9/24/2020.
- Hsu JW, Shaw BE, Kim S, Logan BR, Sees JA, Confer DL, et al Collection of Peripheral Blood Progenitor Cells in 1 Day Is Associated with Decreased Donor Toxicity Compared to 2 Days in Unrelated Donors. (2020). *Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation*. PMID: 32088366; 2/24/2020.
- Hu B, Lin X, Lee HC, Huang X, Tidwell RSS, Ahn KW, Hu ZH, et al. (2020). "Timing of allogeneic hematopoietic cell transplantation (alloHCT) for chronic myeloid leukemia (CML) patients." *Leukemia & lymphoma*. PMID: 32662346; 7/15/2020.
- Hu KY, Wu R, Szabo A, Ridolfi TJ, Ludwig KA, Peterson CY. (2020). "Laparoscopic Versus Robotic Proctectomy Outcomes: An ACS-NSQIP Analysis." *The Journal of surgical research*. PMID: 32622164; 7/6/2020.
- Hyingstrom AS, Nguyen JN, Wright MT, Tarima SS, Schmit BD, et al. (2020). "Two weeks of remote ischemic conditioning improves brachial artery flow mediated dilation in chronic stroke survivors." *Journal of applied physiology (Bethesda, Md.:1985)*. PMID: 33090908; 10/23/2020.
- Im A, Rashidi A, Wang T, Hemmer M, MacMillan ML, Pidala J, et al. (2020). "Risk Factors for Graft-versus-Host Disease in Haploidentical Hematopoietic Cell Transplantation Using Post-Transplant Cyclophosphamide." *Biology of blood and marrow transplantation:journal of the American Society for Blood and Marrow Transplantation*. PMID: 32434056; 5/21/2020.
- Isaacson E, Lucjak C, Johnson WK, Yin Z, Wang T, Rein L, Woods RK, et al. (2020). "Mitral Valve Surgery in Neonates, Infants, and Children: Surgical Approach, Outcomes, and Predictors." *Seminars in thoracic and cardiovascular surgery*. PMID: 31972302; 1/24/2020.
- Jagadeesh D, Majhail NS, He Y, Ahn KW, Litovich C, Ahmed S, et al. (2020). "Outcomes of rituximab-BEAM versus BEAM conditioning regimen in patients with diffuse large B cell lymphoma undergoing autologous transplantation." *Cancer*. PMID: 32049359; 2/13/2020.

- Jakubowski L, Leader BA, Ishman SL, Chun R, Tarima SS, Parikh S, et al. (2020). "Validation of an Objective Assessment Tool for Tonsillectomy in Otolaryngology Resident Training." *The Laryngoscope*. PMID: 32510606; 6/9/2020.
- Kahn JM, Brazauskas R, Tecca HR, Bo-Subait S, Buchbinder D, et al. (2020). "Subsequent neoplasms and late mortality in children undergoing allogeneic transplantation for nonmalignant diseases." *Blood advances*. PMID: 32396620; 5/13/2020.
- Khatun A, Kasmani MY, Zander R, Schauder DM, Snook JP, et al. (2020). "Single-cell lineage mapping of a diverse virus-specific naive CD4 T cell repertoire." *The Journal of experimental medicine*. PMID: 33201171; 11/18/2020.
- Kidambi S, Wang T, Chelius T, Nunuk I, Agarwal P, Laud P, Mattson D, et al. (2020). "Twenty-four-hour versus clinic blood pressure levels as predictors of long-term cardiovascular and renal disease outcomes among African Americans." *Scientific reports*. PMID: 32669581; 7/17/2020.
- Knight JM, Rizzo JD, Hari P, Pasquini MC, Giles KE, D'Souza A, Logan BR, et al. (2020). "Propranolol inhibits molecular risk markers in HCT recipients: a phase 2 randomized controlled biomarker trial." *Blood advances*. PMID: 32027744; 2/7/2020.
- Kovacic K, Rein LE, Szabo A, Kommareddy S, Bhagavatula P, et al. (2020). "Pediatric Feeding Disorder: A Nationwide Prevalence Study." *The Journal of pediatrics*. PMID: 32702429; 7/24/2020.
- Kwarteng JL, Beyer KMM, Banerjee A, Stolley MR. (2020). "Facilitators of behavior change and weight loss in an intervention for African American Breast Cancer Survivors." *Cancer causes & control : CCC*. PMID: 32415529; 5/18/2020.
- Lee CJ, Kim S, Tecca HR, Bo-Subait S, Phelan R, Brazauskas R, et al. (2020). "Late effects after ablative allogeneic stem cell transplantation for adolescent and young adult acute myeloid leukemia." *Blood advances*. PMID: 32168378; 3/14/2020.
- Lee DJ, Woertz EN, Visotcky A, Wilk MA, Heitkotter H, et al. (2020). "Erratum: The henle fiber layer in albinism: Comparison to normal and relationship to outer nuclear layer thickness and foveal cone density (*Invest Ophthalmol Vis Sci*. (2018) 59 (5336-5348) DOI: 10.1167/iovs.18-24145)." *Investigative Ophthalmology and Visual Science*. 11/1/2020.
- Lin CW, Chang LC, Ma T, Oh H, French B, Puralewski R, et al. (2020). "Older molecular brain age in severe mental illness." *Molecular psychiatry*. PMID: 32632206; 7/8/2020.
- Linderman RE, Georgiou M, Woertz EN, Cava JA, Litts KM, Tarima S, et al. (2020). "Preservation of the Foveal Avascular Zone in Achromatopsia Despite the Absence of a Fully Formed Pit." *Investigative ophthalmology & visual science*. PMID: 32866266; 9/1/2020.
- Marsh RA, Leiding JW, Logan BR, Griffith LM, Arnold DE, Haddad E, et al. (2020). "Correction: Chronic Granulomatous Disease-Associated IBD Resolves and Does Not Adversely Impact Survival Following Allogeneic HCT." *Journal of clinical immunology*. PMID: 32860171; 8/30/2020.
- Mast AE, Szabo A, Stone M, Cable RG, Spencer BR, et al. (2020). "The benefits of iron supplementation following blood donation vary with baseline iron status." *American journal of hematology*.

PMID: 32243609; 4/4/2020.

- Mather TL, Hu KY, Rein LE, Szabo A, Lundeen SJ, et al. (2020). "Racial and Ethnic Variation Associated with Human Papillomavirus Genotype in Anal Dysplasia." *The Journal of surgical research*. PMID: 32712446; 7/28/2020.
- McAndrew NS, McCracken C, Szabo A, Narayanan B, Peltier W, Leske J. (2020). "Evaluating the Outcomes of an Organizational Initiative to Expand End-of-Life Resources in Intensive Care Units with Palliative Support Tools and Floating Hospice." *Dimensions of critical care nursing : DCCN*. PMID: 32467406; 5/30/2020.
- McGarry SD, Bukowy JD, Iczkowski KA, Lowman AK, Brehler M, Bobholz S, et al. (2020). "Radio-pathomic mapping model generated using annotations from five pathologists reliably distinguishes high-grade prostate cancer." *Journal of medical imaging (Bellingham, Wash.)*. PMID: 32923510; 9/15/2020.
- McReynolds LJ, Wang Y, Thompson AS, Ballew BJ, Kim J, Alter BP, et al. (2020). "Population Frequency of Fanconi Pathway Gene Variants and Their Association with Survival After Hematopoietic Cell Transplantation for Severe Aplastic Anemia." *Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation*. PMID: 31982544; 1/27/2020.
- Medhora M, Gasperetti T, Schamerhorn A, Gao F, Narayanan J, Lazarova Z, et al. (2020). "Wound Trauma Exacerbates Acute, but not Delayed, Effects of Radiation in Rats: Mitigation by Lisinopril." *International journal of molecular sciences*. PMID: 32486174; 6/4/2020.
- Mehta RS, Holtan SG, Wang T, Hemmer MT, Spellman SR, et al. (2020). "Composite GRFS and CRFS Outcomes After Adult Alternative Donor HCT." *Journal of clinical oncology : official journal of the American Society of Clinical Oncology*. PMID: 32364845; 5/5/2020.
- Mohan M, Yarlagadda N, Szabo A, Singh A, Pina Oviedo S, Schinke C. (2020). "Clinical characteristics of testicular extramedullary involvement in multiple myeloma." *Am J Hematol*. PMID: 33338289; 12/19/2020.
- Monahan K, Kleman A, Thapa B, Szabo A, D'Souza A, Dhakal B, et al. (2020). "Propylene Glycol-Free Melphalan versus PG-Melphalan as Conditioning for Autologous Hematopoietic Cell Transplantation for Myeloma." *Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation*. PMID: 32920204; 9/14/2020.
- Muslu CS, Kopetsky M, Nimmer M, Visotcky A, Fraser R, Brousseau DC. (2020). "The association between timely opioid administration and hospitalization in children with sickle cell disease presenting to the emergency department in acute pain." *Pediatric blood & cancer*. PMID: 32614150; 7/3/2020.
- Myllymäki M, Redd RA, Reilly CR, Saber W, Spellman S, Gibson CJ, et al. (2020). "Short Telomere Length Predicts Non-Relapse Mortality after Stem Cell Transplantation for Myelodysplastic Syndrome." *Blood*. PMID: 32808013; 8/19/2020.
- Nazha A, Hu ZH, Wang T, Lindsley RC, Abdel-Azim H, et al. (2020). "A Personalized Prediction Model for Outcomes after Allogeneic Hematopoietic Cell Transplant in Patients with Myelodysplastic Syndromes." *Biology of blood and marrow transplantation : journal of the American Society for*

- Blood and Marrow Transplantation. PMID: 32781289; 8/12/2020.
- Okunseri CE, Hodgson B, Okunseri E, Garcia R, Visotcky A, Szabo A. (2020). "Dental sealants and restorative treatment for first molars among Medicaid enrollees." *Community dentistry and oral epidemiology*. PMID: 33020929; 10/7/2020.
- Okunseri CE, Okunseri E, Garcia RI, Visotcky A, Szabo A. (2020). "Geographic variations in dental sealant utilization by Medicaid enrollees." *Journal of public health dentistry*. PMID: 33174220; 11/12/2020.
- Okunseri CE, Rota K, Okunseri E, Patel K, Garcia RI, Zheng C, Szabo A. (2020). "Dental service utilization and immigrant family structure." *Journal of public health dentistry*. PMID: 33258107; 12/2/2020.
- Palangmonthip W, Wu R, Tarima S, Bobholz SA, LaViolette PS, et al. (2020). "Corpora amyloidea in benign prostatic acini are associated with concurrent, predominantly low-grade cancer." *The Prostate*. PMID: 32271960; 4/10/2020.
- Pan P, Zhu Z, Oshima K, Aldakkak M, Tsai S, Huang YW, et al. (2020). "Black raspberries suppress pancreatic cancer through modulation of NKp46<sup>+</sup>, CD8<sup>+</sup>, and CD11b<sup>+</sup> immune cells." *Food frontiers*. PMID: 32368735; 5/6/2020.
- Perales M-A, Tomlinson B, Zhang MJ, St. Martin A, Beitinjaneh A, Gibson J. (2020). "Alternative donor transplantation for acute myeloid leukemia in patients aged 50 years: Young HLA-matched unrelated or haploidentical donor?" *Haematologica*.
- Puppala VK, Hofeld BC, Anger A, Tyagi S, Strath SJ, Fox J, et al. (2020). "Pacemaker detected active minutes are superior to pedometer-based step counts in measuring the response to physical activity counseling in sedentary older adults." *BMC geriatrics*. PMID: 32375676; 5/8/2020.
- Samudrala SSK, North LM, Stamm KD, Earing MG, Frommelt MA, et al. (2020). "Novel KLHL26 variant associated with a familial case of Ebstein's anomaly and left ventricular noncompaction." *Molecular genetics & genomic medicine*. PMID: 31985165; 1/28/2020.
- Savage SA, Viard M, O'hUigin C, Zhou W, Yeager M, Li SA, Wang T, et al. (2020). "Genome-wide Association Study Identifies HLA-DPB1 as a Significant Risk Factor for Severe Aplastic Anemia." *American journal of human genetics*. PMID: 32004448; 2/1/2020.
- Schroter S, Thomas D, Nimmer M, Visotcky A, Fraser R, Colella MR, Browne LR. (2020). "Multimedia Evaluation of EMT-Paramedic Assessment and Management of Pediatric Respiratory Distress." *Prehosp Emerg Care*. PMID: 32870748; 9/2/2020.
- Seftel MD, Kuxhausen M, Burns L, Chitphakdithai P, Confer D, et al. (2020). "Clonal Hematopoiesis in Related Allogeneic Transplant Donors: Implications for Screening and Management." *Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation*. PMID: 32147534; 3/10/2020.
- Shah NN, Ahn KW, Litovich CA, He Y, Sauter CS, Fenske TS, Hamadani M. (2020). "Is Autologous Transplant in Relapsed DLBCL Patients Achieving Only a PET+ PR Appropriate in the CAR-T cell Era?" *Blood*. PMID: 33120429; 10/30/2020.

- Shah NN, Johnson BD, Schneider D, Zhu F, Szabo A, et al. (2020). "Bispecific anti-CD20, anti-CD19 CAR T cells for relapsed B cell malignancies: a phase 1 dose escalation and expansion trial." *Nature medicine*. PMID: 33020647; 10/7/2020.
- Singh B, Kosuru R, Lakshmikanthan S, Sorci-Thomas M, Zhang D, et al. (2020). "Endothelial Rap1 (Ras-Association Proximate 1) Restricts Inflammatory Signaling to Protect from the Progression of Atherosclerosis." *Arteriosclerosis, thrombosis, and vascular biology*. PMID: 33267664; 12/4/2020.
- Solomon SR, Martin AS, Zhang MJ, Ballen K, Bashey A, Battiwalla M, et al. (2020). "Optimal Donor for African Americans with Hematologic Malignancy: HLA-Haploidentical Relative or Umbilical Cord Blood Transplant." *Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation*. PMID: 32649981; 7/11/2020.
- Spector A, Brazauskas R, Hainsworth K, Hoffman GM, Weisman S, et al. (2020). "Changes in Health Care Utilization for Pediatric Patients Treated at a Specialized Outpatient Pain Clinic." *WMJ : official publication of the State Medical Society of Wisconsin*. PMID: 31978284; 1/25/2020.
- Sung H, Hyun N, Leach CR, Yabroff KR, Jemal A. (2020). "Association of First Primary Cancer with Risk of Subsequent Primary Cancer Among Survivors of Adult-Onset Cancers in the United States." *JAMA*. PMID: 33351041; 12/23/2020.
- Venkitachalam R, Szabo A, Guru Murthy GS. (2020). "Population-Level Outcomes of Pediatric Acute Promyelocytic Leukemia in the United States." *The Journal of pediatrics*. PMID: 3248239; 6/3/2020.
- Verneris MR, Miller JS, Hsu KC, Wang T, Sees JA, Paczesny S, et al. (2020). "Investigation of donor KIR content and matching in children undergoing hematopoietic cell transplantation for acute leukemia." *Blood advances*. PMID: 32267930; 4/9/2020.
- Vyles D, Chiu A, Routes J, Castells M, Phillips EJ, Visotcky A, Fraser R, et al. (2020). "Oral amoxicillin challenges in low-risk children during a pediatric emergency department visit." *J Allergy Clin Immunol Pract*. PMID: 31586667; 10/7/2019.
- Weisdorf D, Cooley S, Wang T, Trachtenberg E, Vierra-Green C, et al. (2020). "KIR B donors improve the outcome for AML patients given reduced intensity conditioning and unrelated donor transplantation." *Blood advances*. PMID: 32092137; 2/25/2020.
- Williams A, Baruah D, Patel J, Szabo A, Chhabra S, et al. (2020). "Prevalence and significance of sarcopenia in multiple myeloma patients undergoing autologous hematopoietic cell transplantation." *Bone marrow transplantation*. PMID: 32732941; 8/1/2020.
- Winn AN, Fergestrom NM, Pezzin LE, Laud PW, Neuner JM. (2020). "The impact of generic aromatase inhibitors on initiation, adherence, and persistence among women with breast cancer: Applying multi-state models to understand the dynamics of adherence." *Pharmacoepidemiology and drug safety*. PMID: 32196839; 3/21/2020.
- Wu JF, Visotcky A, Szabo A, Eyler S, Siegmann P, et al. (2020). "Implementation of a Novel Near Visual Acuity Chart in an Emergency Department Setting." *Journal for healthcare quality : official publication of the National Association for Healthcare Quality*. PMID: 3191771; 1/10/2020.

Wu PK, Hong SK, Chen W, Becker AE, Gundry RL, et al. (2020). “Mortalin (HSPA9) facilitates *BRAF*-mutant tumor cell survival by suppressing ANT3-mediated mitochondrial membrane permeability.” *Science signaling*. PMID: 32156782; 3/12/2020.

Yavorek A, Bhagavatula P, Patel K, Szabo A, Ibrahim M. (2020). “The Incidence of Root Canal Therapy after Full-Coverage Restorations: A 10-Year Retrospective Study.” *Journal of endodontics*. PMID: 32238275; 4/3/2020.

Yoganandan N, Moore J, DeVogel N, Pintar F, Banerjee A, Baisden J, et al. (2020). “Human lumbar spinal column injury criteria from vertical loading at the base: Applications to military environments.” *Journal of the mechanical behavior of biomedical materials*. PMID: 32279845; 4/14/2020.

Zhou Z, Nath R, Cerny J, Wang HL, Zhang MJ, Abdel-Azim H, et al. (2020). “Reduced intensity conditioning for acute myeloid leukemia using melphalan- vs busulfan-based regimens: a CIBMTR report.” *Blood advances*. PMID: 32663298; 7/15/2020.