



**H O P E**  
**I S H E R E**

INVESTIGATION  
DISCOVERY

RESEARCH  
CLINICAL TRIALS  
COLLABORATION  
INNOVATION  
IMPACT

PREVENTION  
ADVANCEMENTS

# HOPE IS HERE



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**Mark A. Slater, PhD**  
*Chief Executive Officer, HonorHealth Research Institute*



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HonorHealth Research Institute



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### EDITOR

**Megan Guthrie, MMC**  
*Director of Communications and  
Community Relations  
HonorHealth Research Institute*



## A MESSAGE TO OUR FRIENDS AND SUPPORTERS

The mission of the HonorHealth Research Institute is to bring tomorrow’s innovations to our community and world, today. In our annual report, we explore a foundational component in that goal – *hope*.

Our researchers are busy helping to stop disease development in its tracks by investigating diverse interventions such as the ATLAS trial to prevent Lou Gehrig’s disease, also known as ALS, from developing in the first place. Being one of 30 sites in the entire world to participate in the first ALS prevention trial, this research is motivated by our vision of a future in which fewer people suffer from ALS, and more survivors enjoy longer and happier lives.

We’re also excited to introduce physician scientists working to uncover new ways to combat COVID-19. They are delving into the immunobiology behind the COVID-19 vaccine with the hope of presenting sabizabulin to the FDA, so that future patients may take advantage of this drug.

Those at risk for developing cancer benefit from guidelines that can increase the quality of life and potentially decrease risk of recurrence. A significant advancement in the care of pancreatic cancer included our triplet therapy study that was published in the New England Journal of Medicine, resulting in new NCCN Clinical Practice Guidelines in Oncology that were adopted in 2022. This established our HRI care as the recommended regimen for patients globally.

Along with protecting the community, the HonorHealth Research Institute seeks to improve the well-being of our colleagues. The Cardiovascular Research Division is looking into protective devices to reduce the amount of radiation exposure for those doctors and nurses on the front lines, making research interventions safer.

The HonorHealth Research Institute is one of HonorHealth’s crown jewels. We connect patients, caregivers, donors, physicians, partners and sponsors to share their needs, vision and purpose – because accomplishing the incredible cannot be done alone.

The future is bright for the institute and is made possible by generous philanthropic support from you and our community. With your continued support, our scientists and physicians are finding tomorrow’s research innovations, today.

Thank you and *hope is here*,



**MARK A. SLATER, PhD**  
Chief Executive Officer  
HonorHealth Research Institute

## HONORHEALTH RESEARCH INSTITUTE BY THE NUMBERS

In 2022, the HonorHealth Research Institute impacted the value and quality of patient care by accelerating innovation, while seamlessly integrating the best science.



**6,107**

RESEARCH PARTICIPANTS WITHIN THE LAST FIVE YEARS



**306**

CLINICAL TRIALS WITH 48 NEW TRIALS INITIATED IN 2022



**3,553**

HRI CLINIC PATIENT VISITS IN 2022



**134**

ACTIVE INVESTIGATORS IN 2022



**12**

FDA NOVEL THERAPY APPROVALS IN 2022



**108**

PUBLICATIONS IN 2022



CARDIOVASCULAR  
RESEARCH  
HIGHLIGHTS  
IN 2022

49

CLINICAL TRIALS  
WITH 10 NEW  
TRIALS INITIATED

286

HRI CLINIC  
PATIENT VISITS

32

ACTIVE  
INVESTIGATORS

1

FDA NOVEL THERAPY  
APPROVALS

11

PUBLICATIONS

814

RESEARCH  
PARTICIPANTS  
WITHIN THE  
LAST FIVE YEARS

“This past year, we were involved in a variety of innovations in rhythm management, coronary management, and aortic and mitral valve therapies. We have established ourselves as national leaders in clinical research, innovation and education. There are few centers in the country who have been on the leading edge of valvular disease and cardiogenic shock. We were also the prime enrolling site for the Aveir DR trial with Rahul Doshi, MD. The future for advanced novel technologies is extraordinary.” — **DAVID RIZIK, MD**



### IMPACT

- The HonorHealth Research Institute completed enrollment in 2021 for the Single Chamber Leadless 2 trial that led to FDA approval. In 2022, we were the second site to open in the United States for AVIER DR, which was a first-in-human clinical trial for a dual chamber leadless device. Our site was the No. 1 enroller in the United States, and No. 2 in the world.
- The HonorHealth Research Institute opened a cardiogenic shock study called, STEMI-DTU this year. This trial targets patients who arrive at the hospital with a heart attack by offloading the burden on the heart with an FDA-approved device with the goal of preventing cell death.
- Our team utilized a device that few hospitals in the country have to reduce radiation exposure. This was groundbreaking as we were the first site in the state of Arizona to use this technology.

### NOTABLE PUBLICATION

- **Thomas Mattioni**, Friedman P, Murgatroyd F, Boersma LVA, Manlucu J, O'Donnell D, Knight BP, Clémenty N, Leclercq C, Amin A, Merkely BP, Birgersdotter-Green UM, Chan JYS, Biffi M, Knops RE, Engel G, Muñoz Carvajal I, Epstein LM, Sagi V, Johansen JB, Sterliński M, Steinwender C, Hounshell T, Abben R, Thompson AE, Wiggenhorn C, Willey S, Crozier I; Extravascular ICD Pivotal Study Investigators. Efficacy and Safety of an Extravascular Implantable Cardioverter-Defibrillator. *N Engl J Med.* 2022 Oct 6;387(14):1292-1302. doi: 10.1056/NEJMoa2206485. Epub 2022 Aug 28. PMID: 36036522.

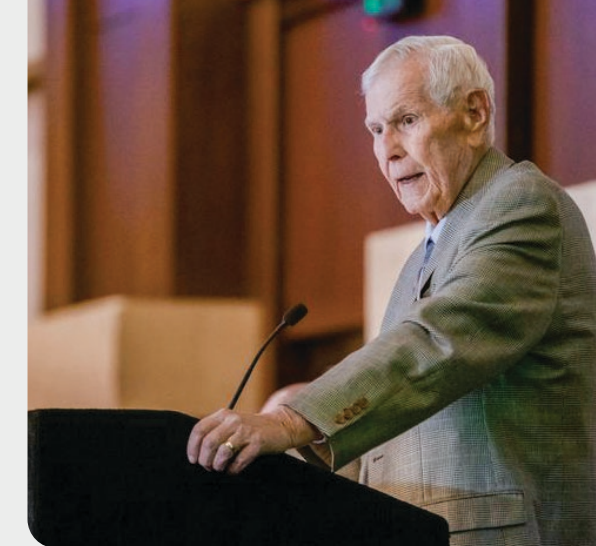
### PATIENT PROFILE IN SPECIAL MEMORY / TRIBUTE

#### Ron Bright — Cardiovascular Research patient

Ron Bright enrolled in the Impulse Dynamics Fix-HF-5C2 study in 2018. He had chronic congestive heart failure, reduced LVEF, NYHA Class III. After rigorous testing, he qualified for the cardiac contractility modulator system, Optimizer, and was treated by **Thomas Mattioni, MD**. On Nov. 11, 2022, Bright made his last public speech at the Inaugural HonorHealth Research Institute Symposium. He passed away peacefully on Dec. 3, 2022, with his wife, Donna, by his side. Donna Bright shared that it meant the world to her husband that he could give back by thanking the researchers in person at the Symposium.

“My story involves 20 years of living with vascular disease, and my presence here today is a testament to the skills of my doctors and the hope they generated in me to live a more fulfilled life with my wife Donna, my family and my friends,” said Bright on Nov. 11, 2022. “My gratitude and respect to the doctors, nurses and medical technicians is everlasting. It has been a pleasure for me to participate in the research process as an insider. My hope is that my participation will expand medical knowledge and improve the human condition. I was delighted to be invited here today because it gave me the opportunity to publicly express my gratitude to the doctors and medical professionals of the HonorHealth Research Institute whose knowledge, skills and personal commitment to the patients are first class in every way. I thank you for your care.”

“Ron was grateful to speak at the Symposium and to thank the researchers that made a difference in his life,” says Donna Bright, retired HonorHealth team member. “Weeks later when he was in hospice, I wrapped a gift blanket around his shoulders, and he was proud to show the nurses that it had ‘HonorHealth Research Institute’ written on it and to tell them he was invited to speak at the Symposium. Getting care at HonorHealth was like coming home to old friends, and I am thankful we had such a fine and compassionate team.”



“

IT HAS BEEN A PLEASURE FOR ME  
TO PARTICIPATE IN THE RESEARCH  
PROCESS AS AN INSIDER.

— **RON BRIGHT** —

CARDIOVASCULAR RESEARCH PATIENT



**Top:** Ron Bright, Cardiovascular Research patient, speaking at 2022 Inaugural HonorHealth Research Institute Symposium.

**Bottom:** From left to right: Chad Adams, MPH, AVP, chief operations officer, HonorHealth Research Institute, with Ron Bright, Cardiovascular Research patient, and Donna Bright, HonorHealth retired employee.



MULTISPECIALTY  
RESEARCH  
HIGHLIGHTS  
IN 2022

24

CLINICAL  
TRIALS

3

NEW TRIALS  
INITIATED

227

HRI CLINIC  
PATIENT VISITS

13

ACTIVE  
INVESTIGATORS

2

PUBLICATIONS

1,747

RESEARCH  
PARTICIPANTS  
WITHIN THE  
LAST FIVE YEARS

“The Multispecialty Research Division provides foundational support for programs that are growing and evolving in their ability to conduct research. Research is important to advance the standard of care and differentiating our program, but more importantly, it helps to provide a broader expanse of options for patients so that they can make the best decisions for their care.” — **MICHAEL GORDON, MD**



## IMPACT

- The HonorHealth Research Institute was one of the high enrollers for two Veru Studies that provided reduction in deaths for patients hospitalized with moderate to severe COVID-19 with high risk for ARDS and death. Through our dedicated participation to COVID-19 research, we completed and published critical papers, which led to a submission to the FDA for the sabizabulin trial. This submission is pending a final decision by the FDA.
- The HonorHealth Research Institute provides a variety of options to treat obesity, including rare genetic diseases of obesity. We have two pharmaceutical studies that focus on obesity caused by genetic variants within the MC4R pathway.
- The HonorHealth Research Institute offers pulmonary studies providing patients with COPD (chronic obstructive pulmonary disease) improvement to their day-to-day activities and is developing an advanced Pulmonary Hypertension Program with the collaboration of the Cardiovascular Research Division.
- Initiation of the colon polyp resection study with gastroenterology, and a collaboration with TGen focusing on biomarker analysis of high-risk polyps.

## NOTABLE PUBLICATIONS

- K. Gary Barnette, **Michael S. Gordon**, Domingo Rodriguez, T. Gary Bird, Alan Skolnick, Michael Schnaus, Paula K. Skarda, Suzana Lobo, Eduardo Sprinz, Georgi Arabadzhiev, Petar Kalaydzhiev and Mitchell Steiner. (2022). Oral Sabizabulin for High-Risk, Hospitalized Adults with COVID-19: Interim Analysis. NEJM Evidence, 1(9), EVIDoa2200145. <https://evidence.nejm.org/doi/abs/10.1056/EVIDoa2200145>
- Whitworth, P. W., Beitsch, P. D., Patel, R., Rosen, B., Compagnoni, G., Baron, P. L., Simmons, R., Brown, E. A., Gold, L., Holmes, D., Smith, L. A., Kinney, M., Grady, I., **Clark, P.**, Barbosa, K., Lyons, S., Riley, L., Coomer, C., Curcio, L., Ruiz, A., ... Esplin, E. D. (2022). Clinical Utility of Universal Germline Genetic Testing for Patients with Breast Cancer. JAMA networkopen,5(9), e2232787. <https://doi.org/10.1001/jamanetworkopen.2022.32787>

“

“MY QUALITY OF LIFE HAS TREMENDOUSLY IMPROVED SINCE ENROLLING IN THIS STUDY. THANK YOU TO HONORHEALTH RESEARCH INSTITUTE FOR GIVING ME HOPE.”

— **KRISTEN CROFT** —  
BARIATRIC RESEARCH PATIENT

## PATIENT PROFILE

### Kristen Croft — Bariatric Research patient

Kristen came to the HonorHealth Research Institute in February 2020 in hopes of enrolling in the RM-493-014 study after having been diagnosed with the LEPR p. V3441 Heterozygous gene variant. Since childhood, Croft struggled with satiety and into her teen years, failed diet attempts. Through her own research into her condition, she found that there could be a genetic component to obesity. Though rare, there was a possibility obesity was caused by certain genetic variants. Currently, Kristen is participating in her third Rhythm Study.





ONCOLOGY  
RESEARCH  
HIGHLIGHTS  
IN 2022

141

CLINICAL TRIALS  
WITH 23 NEW  
TRIALS INITIATED

2,656

HRI CLINIC  
PATIENT VISITS

26

ACTIVE  
INVESTIGATORS

7

FDA NOVEL THERAPY  
APPROVALS

50

PUBLICATIONS

2,708

RESEARCH  
PARTICIPANTS  
WITHIN THE  
LAST FIVE YEARS

“Oncology research at the HonorHealth Research Institute has continued to offer novel and potentially impactful treatment options to our cancer patients. We’re excited about treatments developed here for pancreatic cancer that are aligned with national guidelines, our Cutaneous Oncology Program and the initiation of novel treatment options for advanced melanoma. Our phase 1 program continues to focus on novel, first-in-human studies to offer more treatment options for individuals with cancer. And finally, we are excited about our Gynecologic Oncology Program and the initiation of cancer research across the HonorHealth network. We are optimistic for growth in the coming year.” — **ERKUT BORAZANCI, MD, MS**



## IMPACT

- A novel drug combination therapy – gemcitabine/nab-paclitaxel/cisplatin – developed at the HonorHealth Research Institute resulted in changes to the 2022 National Comprehensive Cancer Network guidelines for pancreatic cancer as a recommended regimen.
- The Cutaneous Oncology Program, led by **Justin Moser, MD**, and **Michael Gordon, MD**, initiated an expanded access program for tumor-infiltrating lymphocyte therapy for individuals with refractory melanoma. This treatment is only offered at the HonorHealth Research Institute in the state of Arizona.
- A pilot program led by **Frank Tsai, MD**, and **Frederic Zenhausem, PhD, MBA**, along with **Amy Mirabella, PhD, RN**, and **Margaux Steinbach, RN**, examining how virtual reality can improve patient education.
- **Elahere** is approved for treatment in adult patients with FRα positive, platinum-resistant epithelial ovarian, fallopian tube or primary peritoneal cancer. First FDA approval in ovarian cancer in more than two and a half years. The gynecologic cancer team led by **Brad Monk, MD**, made significant contribution to the study. Dr. Monk is leading research efforts within the HonorHealth Virginia Piper Cancer Center Network.

## NOTABLE PUBLICATIONS

- Drenner K, Basu GD, Goodman LJ, Ozols AA, LoBello JR, Royce T, **Gordon MS**, **Borazanci EH**, **Steinbach MA**, Trent J, **Sharma S**. Addendum: The value of comprehensive genomic sequencing to maximize the identification of clinically actionable alterations in advanced cancer patients: a case series. *Oncotarget*. 2022 Oct 20;13:1174. doi: 10.18632/oncotarget.28294. Erratum for: *Oncotarget*. 12:1836. PMID: 36289011; PMCID: PMC9584422.  
*Using genomic sequencing to identify possible treatment options for individuals with refractory cancer. Sunil Sharma, MD's, lab is developing an organoid assay that may allow for a precise selection for the best therapy for someone with cancer.*
- El-Khoury H, Lee DJ, Alberge JB, Redd R, Cea-Curry CJ, Perry J, Barr H, Murphy C, Sakrikar D, Barnidge D, Bustoros M, Leblebjian H, Cowan A, Davis MI, Amstutz J, Boehner CJ, Lightbody ED, Sklavenitis-Pistofidis R, Perkins MC, Harding S, Mo CC, Kapoor P, **Mikhael J**, Borrello IM, Fonseca R, Weiss ST, Karlson E, Trippa L, Rebbeck TR, Getz G, Marinac CR, Ghobrial IM. Prevalence of monoclonal gammopathies and clinical outcomes in a high-risk US population screened by mass spectrometry: a multicenter cohort study. *Lancet Haematol*. 2022 May;9(5):e340-e349. doi: 10.1016/S2352-3026(22)00069-2. Epub 2022 Mar 25. PMID: 35344689; PMCID: PMC9067621.
- Dimopoulos MA, Moreau P, Augustson B, Castro N, Pika T, Delimpasi S, De la Rubia J, Maiolino A, Reiman T, Martinez-Lopez J, Martin T, **Mikhael J**, Yong K, Risse ML, Asset G, Marion S, Hajek R. Isatuximab plus carfilzomib and dexamethasone in patients with relapsed multiple myeloma based on prior lines of treatment and refractory status: IKEMA subgroup analysis. *Am J Hematol*. 2023 Jan;98(1):E15-E19. doi: 10.1002/ajh.26602. Epub 2022 Jun 4. PMID: 35604280.
- You B, Purdy C, Copeland LJ, Swisher EM, Bookman MA, Fleming G, Coleman R, Randall LM, Tewari KS, **Monk BJ**, Mannel RS, Walker JL, Cappuccini F, Cohn D, Muzaffar M, Mutch D, Wahner-Hendrickson A, Martin L, Colomban O, Burger RA. Identification of Patients With Ovarian Cancer Experiencing the Highest Benefit From Bevacizumab in the First-Line Setting on the Basis of Their Tumor-Intrinsic Chemosensitivity (KELIM): The GOG-0218 Validation Study. *J Clin Oncol*. 2022 Dec 1;40(34):3965-3974. doi: 10.1200/JCO.22.01207. Epub 2022 Oct 17. PMID: 36252167; PMCID: PMC9746742.
- **Monk BJ**, Parkinson C, Lim MC, O'Malley DM, Oaknin A, Wilson MK, Coleman RL, Lorusso D, Bessette P, Ghamande S, Christopoulou A, Provencher D, Prendergast E, Demirkiran F, Mikheeva O, Yeku O, Chudecka-Glaz A, Schenker M, Littell RD, Safra T, Chou HH, Morgan MA, Drochýtek V, Barlin JN, Van Gorp T, Ueland F, Lindahl G, Anderson C, Collins DC, Moore K, Marme F, Westin SN, McNeish IA, Shih D, Lin KK, Goble S, Hume S, Fujiwara K, Kristeleit RS. A Randomized, Phase III Trial to Evaluate Rucaparib Monotherapy as Maintenance Treatment in Patients With Newly Diagnosed Ovarian Cancer (ATHENA-MONO/GOG-3020/ENGOT-ov45). *J Clin Oncol*. 2022 Dec 1;40(34):3952-3964. doi: 10.1200/JCO.22.01003. Epub 2022 Jun 6. PMID: 35658487; PMCID: PMC9746782.
- Tewari KS, **Monk BJ**, Vergote I, Miller A, de Melo AC, Kim HS, Kim YM, Lisyanskaya A, Samouëlian V, Lorusso D, Damian F, Chang CL, Gotovkin EA, Takahashi S, Ramone D, Pikiel J, Maćkowiak-Matejczyk B, Guerra Alía EM, Colombo N, Makarova Y, Rischin D, Lheureux S, Hasegawa K, Fujiwara K, Li J, Jamil S, Jankovic V, Chen CI, Seebach F, Weinreich DM, Yancopoulos GD, Lowy I, Mathias M, Fury MG, Oaknin A; Investigators for GOG Protocol 3016 and ENGOT Protocol En-Cx9. Survival with Cemiplimab in Recurrent Cervical Cancer. *N Engl J Med*. 2022 Feb 10;386(6):544-555. doi: 10.1056/NEJMoa2112187. PMID: 35139273.

## NOTABLE PUBLICATIONS, CONT.

- Nakamura K, Zhu Z, Roy S, Jun E, Han H, Munoz RM, Nishiwada S, Sharma G, Cridebring D, **Zenhausern F**, Kim S, Roe DJ, Darabi S, Han IW, Evans DB, Yamada S, Demeure MJ, Becerra C, Celinski SA, **Borazanci E**, Tsai S, Kodera Y, Park JO, Bolton JS, Wang X, Kim SC, **Von Hoff D**, Goel A. An Exosome-based Transcriptomic Signature for Noninvasive, Early Detection of Patients With Pancreatic Ductal Adenocarcinoma: A Multicenter Cohort Study. *Gastroenterology*. 2022 Jul 16:S0016-5085(22)00775-2. doi: 10.1053/j.gastro.2022.06.090. Epub ahead of print. PMID: 35850192.

*This work highlighting early results of our early detection team; HonorHealth Research Institute is part of U01 grant for pancreatic cancer detection.*

- **Moser JC**, Salvador E, Deniz K, Swanson K, Tusynski J, Carlson KW, Karanam NK, Patel CB, Story M, Lou E, Hagemann C. The mechanisms of action of Tumor Treating Fields. *Cancer Res*. 2022 Jul 15;CAN-22-0887. doi: 10.1158/0008-5472.CAN-22-0887. Epub ahead of print. PMID: 35839284.

*Tumor Treatment Fields (TTF) is a new way of treating cancer and can be combined with chemotherapy or immune therapy to improve results. Dr. Moser is leading a trial combining TTF with immune therapy in advanced uveal melanoma (NCT05004025).*

- Kim TW, Burris HA, de Miguel Luken MJ, Pishvaian MJ, Bang YJ, **Gordon M**, Awada A, Camidge DR, Hodi FS, McArthur GA, Miller WH, Cervantes A, Chow LQ, Lesokhin AM, Rutten A, Sznol M, Rishipathak D, Chen SC, Stefanich E, Pourmohamad T, Anderson M, Kim J, Huseni M, Rhee I, Siu LL. First-In-Human Phase I Study of the OX40 Agonist MOXR0916 in Patients with Advanced Solid Tumors. *Clin Cancer Res*. 2022

Aug 15;28(16):3452-3463. doi: 10.1158/1078-0432.CCR-21-4020. PMID: 35699599.

*High impact publication of a phase 1 study, one of several that HonorHealth Research Institute conducts.*

- Botrus G, Roe D, **Jameson GS**, Junior PLSU, Korn RL, **Caldwell L**, Bargaquast T, Miller M, **Borazanci EH**. Mitomycin C in Homologous Recombination Deficient Metastatic Pancreatic Cancer after Disease Progression on Platinum-Based Chemotherapy and Olaparib. *Biomedicines*. 2022 Oct 26;10(11):2705. doi: 10.3390/biomedicines10112705. PMID: 36359225; PMCID: PMC9687686.

*Publication of a DNA repair damaging agent having high activity in a subset of individuals with pancreatic cancer. Highlights the need for genomic testing for everyone with pancreatic cancer.*

- **Borazanci E**, Schram AM, Garralda E, Brana I, Vieito Villar M, Spreafico A, Oliva M, Lakhani NJ, Hoffman K, Hallett RM, Maetzel D, Hua F, Hilbert J, Giblin P, Anido J, Kelly A, Vickers PJ, Wasserman R, Seoane J, Siu LL, Hyman DM, **Hoff DV**, Tabernero J. Phase I, first-in-human study of MSC-1 (AZD0171), a humanized anti-leukemia inhibitory factor monoclonal antibody, for advanced solid tumors. *ESMO Open*. 2022 Aug;7(4):100530. doi: 10.1016/j.esmoop.2022.100530. Epub 2022 Jul 31. PMID: 35921760; PMCID: PMC9434412.

*Phase 1 study led by the HonorHealth Research Institute whose results led to the initiation of a phase 2 study in pancreas cancer.*

“

I'M HONORED TO BE PART OF SOMETHING THAT SAVES LIVES. THE LORD HAD A PLAN, AND YOU ARE ALL A PART OF IT. I SAW PARTICIPATING IN RESEARCH AS AN OPPORTUNITY TO HELP OTHERS AND TO HELP MY FUTURE.

— DALE MINCKS —  
ONCOLOGY RESEARCH PATIENT



From left to right: Michael Gordon, MD, and Dale Mincks, Oncology Research patient, speaking at 2022 Inaugural HonorHealth Research Institute Symposium

## PATIENT PROFILE

**Dale Mincks —  
Oncology Research patient**

Dale is actively being treated by Dr. Gordon and is in follow-up for a malignant peripheral neural sheath tumor, a rare type of cancer.

“The HonorHealth Research Institute sets the bar high,” says Mincks. “I’m honored to be part of something that saves lives. The Lord had a plan, and you are all a part of it. I saw participating in research as an opportunity to help others and to help my future.”

Six years after enrolling in a clinical trial combination study, Mincks’ cancer is undetectable.

“We make a difference in the lives of patients who have been given the most devastating news of their lives, and that is what drives us forward,” says Dr. Gordon.



NEUROSCIENCE RESEARCH HIGHLIGHTS IN 2022

92

CLINICAL TRIALS WITH 12 NEW TRIALS INITIATED

384

HRI CLINIC PATIENT VISITS

63

ACTIVE INVESTIGATORS

4

FDA NOVEL THERAPY APPROVALS

45

PUBLICATIONS

837

RESEARCH PARTICIPANTS WITHIN THE LAST FIVE YEARS

“2022 was a very successful year for Neuroscience research. We expanded across multiple disciplines and continue to grow clinical researcher expertise and capabilities. More importantly, we have been able to expand access to novel and exciting therapies for HonorHealth patients as they deal with these challenging diseases and disorders. We are excited about what 2023 will hold as we mature our research portfolio and establish partnerships with local and national collaborators.” — **TODD LEVINE, MD**



IMPACT

- **Aducanumab** is the first FDA-approved disease-modifying therapy to treat Alzheimer’s disease and available to patients in more than 20 years. HonorHealth Research Institute is participating in two critical interventional clinical trials looking at the continued safety and efficacy of Aducanumab.
- FDA approval of **Efgartigimod** for the treatment of Myasthenia Gravis. HonorHealth Research Institute has participated in multiple clinical trials using Efgartigimod to treat various diseases.
- FDA approval of **Oral Edaravone** – the first commercially available disease-modifying therapy for ALS in oral form. The oral drug allows ALS patients (and their caregivers) who have significant issues with mobility and medical transportation to be treated at home, rather than having to come into a clinic to receive their medications. HonorHealth

Research Institute participated in the Phase II and III clinical trials for both IV infusion and oral Edaravone.

- FDA approval of **Atogepant** for the prevention of migraines. HonorHealth Research Institute participated in a clinical trial focusing on the prevention of migraines, rather than merely treating them. This is a pivotal need for patients suffering from migraines.
- Interventional Neurologist, **Ashutosh Jadhav, MD, PhD**, was the principal investigator of the landmark DAWN trial, which quadrupled the time window of stroke treatment from up to six hours to up to 24 hours. This led to a dramatic change in stroke treatment guidelines published by the American Heart Association.
- The Neuroscience Research team, under the leadership of neurosurgeon **Luis M. Tumialán, MD**, is studying

factors leading to readmission after minimally invasive spine surgeries. Urinary retention, constipation and persistent radicular symptoms were the leading causes of readmission within 30 days of surgery in this series. The inability to discharge a patient home for social reasons led to prolonged inpatient hospital stays. Identifying these risk factors and proactively addressing them could lower readmission rates and decrease the hospital length of stay. This will inherently improve patient outcomes and reduce care costs.

NOTABLE PUBLICATIONS

- Saber H, **Desai SM**, Haussen D, Al-bayati A, Majidi S, Mocco J, Hassan A, Rajah G, Waqas M, Davies JM, Dornbos III D, Nickle C, Arthur AS, Mowla A, Tenser MS, Mokin M, Pressman E, Aghaebrahim A, Hanel RA, Ortega-Gutierrez S, Jovin T, Duckwiler GR, Liebeskind DS, Nogueira RG, Gornbein J, Saver JL, **Jadhav AP**. JAMA Netw Open. 2022; 5(10):e2238154. doi: 10.1001/jamanetworkopen.2022.38154  
*Endovascular therapy vs. medical management for patients with acute stroke with medium vessel occlusion in the anterior circulation.*
- Vedantam A, Jimsheleishvili G, Harrop JS, Alberga LR, AhmadFU, **Murphy RK**, Jackson III JB, Rodgers RB & Levi AD, Vedantam A, Jimsheleishvili G, Harrop J.S. et al. Spinal Cord **60**, 510-515 (2022). <https://doi.org/10.1038/s41393-021-00747->  
*A prospective multi-center study comparing the complication profile of modest systemic hypothermia versus normothermia for acute cervical spinal cord injury.*
- Choudhry NK, Fifer S, Fontanet CP, Archer KR, Sears E, Bhatkhande G, Haff N, Ghazinoori R, Coronado RA, Schneider BJ, Butterworth SW, **Deogun H, Cooper A**, Hsu E, Block S, Davidson CA, Shackelford CE, Goyal P, Milstein A, and the SPINE CARE Investigators. The SPINE CARE Randomized Clinical Trial. JAMA, in press.  
*Effect of a Biopsychosocial Intervention or Postural Therapy on Disability and Health Care Spending Among Patients with Acute and Subacute Spine Pain.*



PATIENT PROFILE

**Carly Stoltenberg** — Neuroscience Research patient

Carly was treated by Dr. Todd Levine for chronic inflammatory demyelinating polyradiculoneuropathy (CIDP). CIDP is a slowly developing autoimmune disorder in which the immune system attacks the myelin that insulates and protects the body’s nerves. Stoltenberg participated in two trials, one of them expanding the access program for potentially disease-modifying therapy.

“I was given the opportunity to participate in a single-subject compassionate use study and this drug was a life changer for me – my nerve pain was gone, my hand strength increased dramatically, I felt very close to the way I felt prior to getting my diagnosis,” says Stoltenberg.



I WANT TO THANK HONORHEALTH RESEARCH INSTITUTE FOR GIVING ME MY LIFE BACK.

— **CARLY STOLTENBERG** —  
NEUROSCIENCE RESEARCH PATIENT