



2023

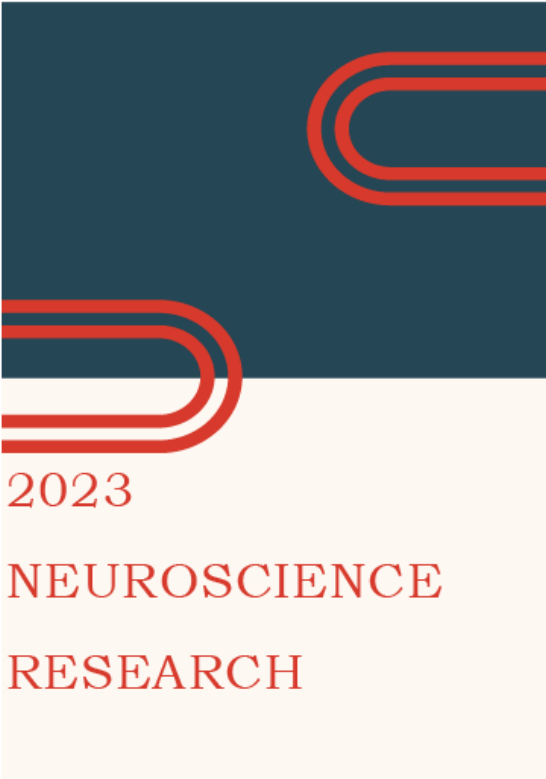
Annual Report



Neuroscience Research Department

The Neuroscience Research Mission

The mission of the Allina Health Neuroscience Research Department is to advocate and advance neuroscience research across numerous clinical programs with the goal of improving patient care. Together, we strive to promote, foster, and sustain the highest quality research while developing methods to enhance care, manage side effects, and improve the cost-effectiveness of treatment modalities.



2023
NEUROSCIENCE
RESEARCH

1 TOTAL STUDIES Neuro-Oncology: 10 Neurophysiology: 2 NIR: 10 Stroke: 11	2 STAFFING Two new staff formally joined Neuroscience Research
3 INNOVATION With systems like Florence and REDCap, we were able to run a fully-decentralized study	4 OUR PATIENTS 117 new patients enrolled in studies, and 239 people actively participated in our studies in 2023
5 LOCATIONS Patients were enrolled at all three metro hospitals	6 GROWTH In 2023, Grant Applications were submitted in 2 novel clinical areas

2023 Updates

The Allina Neuroscience Research Department provides comprehensive research support services to all individuals affiliated with Neuroscience Clinical Programs at Allina Health who are interested in developing research projects leading to improvements in the prevention, diagnosis, and treatment of neurological diseases. Some of these support services include:

- Assistance with research project development and design
- IRB submission and regulatory management
- Research grant preparation and budgetary management
- Database development and management
- Biostatistician support
- Poster and slide preparation for scientific presentation
- Clinical trial operations

In 2023, highlights of the Neuroscience Research Program include:

- A total of 8 new studies were opened, including 6 clinical trials and 2 investigator-initiated studies
- 33 studies were active across all Neuroscience sections
- Nimco Essa, Clinical Research Specialist, initiated and led a research-wide SOP standardization effort
- Department Standard Operating Procedures were reviewed and updated, and new staff onboarding procedures were developed
- The Neuroscience Research Team presented at the 2023 Neuroscience Nursing Symposium for allied health care professionals
- \$27,675.11 in Allina Health Foundation grant funding was awarded to the Neuroscience Research Program
- Neuroscience Research posted a revenue of \$543,317, encompassing both industry and grant funding
- 117 new patients enrolled in Neuroscience Research studies in 2023
- 239 patients actively participated in studies from January-December 2023
- Data was abstracted from 489 patient's records for research purposes
- The inauguration of the Allina Health Neuroscience, Spine, and Pain Institute (AHNSPI), of which Research is a key participant
- AHNSPI's Research Scientific Protocol review committee reviewed their first set of Neuroscience Research Trials
- The Neuroscience Research Team worked with the Allina Health Clinical Research Core Team and other research areas including AHCI and Rehabilitation to ensure staffing needs were met
- Katie Johnson, formally joined the Neuroscience Research team
- Carol Vake, BSN, formally joined the Neuroscience Research team.

Selected Study Updates

Dose Responsiveness as a Measure of Clinical Effectiveness During Neuromonitored Spine Surgery

Principal Investigator: Stanley A. Skinner, MD;

Intraoperative neurophysiological monitoring (IONM) measures neural function and integrity during surgical procedures, allowing the surgical team to take immediate and corrective actions to prevent a bad outcome. ANW's IONM department, recognized for its creation of national standards, remains committed to improved clinical outcomes through innovation. *Dose responsiveness as a measure of clinical effectiveness during neuromonitored spine surgery* is an observational research study using a prospective neuromonitoring database to enhance the evidence base for IONM.

Since December 2020, 293 patients undergoing cervical and thoracic extradural spine surgery (spinal cord level) at ANW have been included in this prospective database study after providing informed consent. 133 participants have completed all longitudinal measures. We aim to include 500 participants overall. In 2024, the Study Team looks forward to completing the remainder of the participant follow-ups and pursuing early stages of publication in peer-reviewed journals.

Expanding the IONM evidence base allows for improved value-based decisions on how IONM is ordered and its execution during spinal surgery. The results generated from this study will help us learn more about predicting outcomes for people who have monitoring during their surgery and will help us to fine-tune our IONM protocols. After study completion, the information-gathering process used in the IONM study may be continued in a quality function.

ARCADIA: AtRial Cardiopathy and Antithrombotic Drugs In Prevention After Cryptogenic Stroke.

Principal Investigator: Dr. Ganesh Asaithambi

ARCADIA : AtRial Cardiopathy and Antithrombotic Drugs In Prevention After Cryptogenic Stroke was a randomized, double-blind, controlled trial of apixaban (Eliquis) vs. aspirin for secondary stroke prevention in patients with atrial cardiopathy and recent embolic stroke of undetermined source. Patients were recruited at 185 sites in North America, including Abbott Northwestern Hospital, United Hospital, and Mercy Hospital within Allina Health.

While the study was recruiting, more than 50 Allina Health patients were recruited into and enrolled in the trial. From there, patients at all three metro hospitals were randomized to study treatment and followed per the study protocol. In 2023, it was announced that the ARCADIA trial was stopping, as it was determined apixaban was not superior to aspirin for prevention of secondary stroke in qualifying patients.

Allina Health Neuroscience research celebrates multiple accomplishments in their conduct of the ARCADIA trial. Neuroscience Research randomized our first patient at Mercy Hospital onto this study, and United Hospital was a top-10 enrolling site in the entire study. The contributions of Allina Health staff were called out in a publication in the Journal of the American Medical Association, recognizing the work done by our investigators and research team.

SUMMIT MAX: A Prospective, Randomized, Controlled, Interventional Clinical Trial to Evaluate the Safety and Effectiveness of the Route 92 Medical MonoPoint® Reperfusion System for Aspiration Embolectomy in Acute Ischemic Stroke Patients

Principal Investigator: Dr. Alexander Copelan

Acute Ischemic Stroke (AIS) due to Large Vessel Occlusion (LVO) carries the highest mortality rate among AIS, and achieving recanalization with a single pass is vital to improving clinical outcomes and reducing overall procedure time. *SUMMIT MAX: A Prospective, Randomized, Controlled, Interventional Clinical Trial to Evaluate the Safety and Effectiveness of the Route 92 Medical MonoPoint® Reperfusion System for Aspiration Embolectomy in Acute Ischemic Stroke Patients* is a prospective, randomized, controlled clinical trial assessing the safety and efficacy of the Route 92 Medical MonoPoint Reperfusion System in this high-risk population.

The Route 92 Medical MonoPoint Reperfusion System is a mechanical neuro-thrombectomy system that removes thrombi through a novel reperfusion set-up. Functionally, the system allows for all mechanical thrombectomies to occur through a single base camp. This process hopes to improve the clinical outcomes associated with acute ischemic stroke secondary to large vessel occlusion.

SUMMIT MAX was opened for enrollment at our site in July 2023 and is led by the site Principal Investigator, Dr. Alexander Copelan. In 2023, two patients were enrolled in the study at Abbott Northwestern Hospital. The results generated from this study should allow for improved treatment of Acute Ischemic Stroke.

EF-32 (TRIDENT): A PIVOTAL RANDOMIZED, OPEN-LABEL STUDY OF OPTUNE® (TTFIELDS, 200KHZ) CONCOMITANT WITH RADIATION THERAPY AND TEMOZOLOMIDE FOR THE TREATMENT OF NEWLY DIAGNOSED GLIOBLASTOMA

Principal Investigator: Dr. Andrea Wasilewski

TRIDENT is a pivotal clinical trial enrolling patients with newly diagnosed glioblastoma (GBM). This trial investigates the OPTUNE® device, which utilizes Tumor Treating Fields (TTFields) to disrupt tumor mitosis in glioblastoma. In this open-label, multi-arm, study, patients receive treatment with TTFields either concurrently with chemoradiation, or following a six-week chemoradiation period.

This study is designed to determine whether TTFields treatment concomitantly with radiation and chemotherapy prolongs the overall survival of patients with GBM, as opposed to radiation and chemotherapy treatments followed by TTFields and maintenance chemotherapy.

Allina Health has participated in TRIDENT since its inauguration in 2019, and as of December 2023, twenty-one patients were enrolled as participants. It is projected that enrollment will close study-wide by early January 2024, and Allina Health is proud to say that we are in the top 10% of enrolling sites in North America for the study.

A Patient Story

Christina has been an active and enthusiastic participant in clinical research since she was diagnosed with Glioblastoma in June 2023. Even though she lives 110 miles from Abbott Northwestern and her commute is at least 4 hours for each trip onsite, she was interested in participating in the GBM AGILE clinical study: Global Adaptive Trial Master Protocol: An International, Seamless Phase II/III Response Adaptive Randomization Platform Trial Designed to Evaluate Multiple Regimens in Newly Diagnosed and Recurrent Glioblastoma (GBM). Her journey with Neuro-Oncology research has brought her to our facility 5 days per week for 6 weeks during radiation and 1-2 times per month every month to receive her treatments. We are grateful for her willingness to share some of her journey and personal story with us.

Christina Bhend – “A positive attitude and a lot of prayer”

My name is Christina Bhend and I live in Chippewa Falls, Wisconsin, but I am originally from North Dakota. I met my husband at the Chippewa Valley Technical College in the Medical Lab Technician program, and we have been married for 28 years now. He is my Rock. He takes very good care of me, and I couldn't go through this brain tumor treatment without him.

After working in the lab at the same local clinic for 19 years, I retired. I had only been retired for about two weeks before I started exhibiting serious symptoms; severe headaches, vomiting, forgetfulness, and personality changes. When nothing would ease the pain of the headaches, my husband took me to the emergency room for an MRI and they discovered the tumor. From there I was sent immediately to Abbott Northwestern Hospital and the doctors and staff took excellent care of me. The surgeon removed my tumor on June 9th, and we were told it was a Glioblastoma. The surgeon did such a good job, and I went home three days after the surgery.

I will do anything I can to battle the “monster in my head”. After allowing the surgery to heal for a while, I started a six-week regimen of chemotherapy and radiation treatment and enrolled in a clinical trial. I believe that the Neuro-Oncology providers know what is best, and I follow their advice. They have the knowledge and experience to know what steps need to be taken. I take pills twice a day, every day. The hardest part is remembering the timing when I am doing something outside of my normal schedule.

I am doing very well, and I do what I can to take care of myself. I exercise three to four days a week, and my caring husband makes sure that I get plenty of rest. It is important for me to enjoy life as much as I can, and I am learning not to worry about the small stuff. In my experience, having a positive attitude and a lot of prayer helps everything and I find crying and being upset doesn't help or fix anything. My tumor has not grown or spread, and I am looking forward to spending the summer flying my giant-scale radio-controlled model airplanes.





The most important thing in my life is spending time with my husband. He is my foundation. We both build and fly Military replica radio-controlled model airplanes, which is a hobby he introduced me to. We fly with a group of friends on the “Warbird and Classics Alliance” tour around the Midwest. It is lots of fun and very rewarding. Last year, our tour was interrupted by my tumor and treatment, so this year, we are getting back to last year’s plans- that is flying and spending quality time with our R/C family. The support from our R/C family has been one of the biggest helps in our lives.

I am grateful for the support I receive from a great base of friends. Being surrounded by our community, combined with a positive attitude and a lot of prayers, keeps us happy and looking forward to life. We will not give up.

Neuroscience Research Trials

January – December 2023

Neuro-Oncology

1. Trusheim J, Bruns P, McDonald W: A Phase II Clinical Trial Evaluating DCVax®-Brain, Autologous Dendritic Cells Pulsed With Tumor Lysate Antigen For The Treatment Of Glioblastoma Multiforme (GBM)
2. Melendez V, Jackson K, Wasilewski A: Identification of genetic markers that predict responsiveness to Tumor Treating Fields
3. Wasilewski A, Trusheim J, Bruns P, Picconi M: A Trial to Evaluate Multiple Regimens in Newly Diagnosed and Recurrent Glioblastoma (GBM AGILE)
4. Wasilewski A, Trusheim J, Bruns P, Picconi M: Pivotal, Randomized, Open-label Study of Optune® Concomitant With RT & TMZ for the Treatment of Newly Diagnosed GBM (EF-32)
5. McDonald W: Glioma Longitudinal Analysis Consortium (GLASS)
6. Bruns P, Wasilewski A: Management and outcomes of primary CNS lymphoma at the Givens Brain Tumor Center
7. Trusheim J: Minnesota Gamma Tiles Data Network. (GT Data Network)
8. Wasilewski A, Bruns P, Monyak D, Picconi M, Trusheim J: A Multicenter Observational Study of GammaTile™ Surgically Targeted Radiation Therapy (STaRT) in Intracranial Brain Neoplasms
9. Wasilewski A, Trusheim J, Bruns P, Picconi M: A Randomized, Double-Blind, Placebo-Controlled Phase 3 Study of Enzastaurin Added to Temozolomide During and Following Radiation Therapy in Newly Diagnosed Glioblastoma Patients Who Possess the Novel Genomic Biomarker DGM1
10. Wasilewski A, Nagib M, Hubbard J, Bruns P: Phase 3 Randomized Controlled Trial of Post-Surgical Stereotactic Radiotherapy (SRT) versus Surgically Targeted Radiation Therapy (STaRT) with Gamma Tile for Treatment of Newly Diagnosed Metastatic Brain Tumors

Neuro-Physiology

1. Skinner S, Strommen J, Passini B: Dose responsiveness as a measure of clinical effectiveness during neuromonitored spine surgery
2. Strommen J, Skinner S, Passini B: Comparison of three approaches of Motor Evoked Potential recording to detect a more reliable measure to predict and prevent nerve damage during spine surgery

Neurovascular/Stroke

1. Asaithambi G, Hanson S, Monita J, Thacker T, Massaquoi R: Atrial Cardiopathy & Antithrombotic Drugs in Prevention After Cryptogenic Stroke (ARCADIA)
2. Asaithambi G, Hanson S, Monita J, Thacker T, Massaquoi R: ARCADIA-Cognition and Silent Infarcts (ARCADIA-CSI)
3. Asaithambi G, Massaquoi R: Anticoagulation in Intracerebral Hemorrhage (ICH) Survivors for Stroke Prevention and Recovery (ASPIRE)
4. Corry J: Conivaptan for the Reduction of Cerebral Edema in Intracerebral hemorrhage- Comparison of PHE volumes to historical cohort
5. Kayan Y, Delgado J, Copelan A: Post-Market Surveillance Study to Evaluate the Long Term Safety and Effectiveness of the WEB® Device
6. Kayan Y, Delgado J, Copelan A: Perfusion imaging to identify posterior circulation candidates for thrombectomy
7. Delgado J, Kayan Y: Compassionate use of the WEB intrasaccular aneurysm embolization device
8. Delgado J, Kayan Y, Copelan A: Stroke Thromboembolism Registry of Imaging and Pathology (STRIP)
9. Delgado J, Kayan Y: miRNA Expression in Aneurysm Healing (miRNA)
10. Delgado J, Kayan Y, Copelan A: Adequate Lateral Compression Is A Strong Independent Predictor Of Aneurysm Occlusion And Retreatment After Endovascular Treatment With WEB
11. Delgado J, Kayan Y, Copelan A: Computational Fluid Dynamics (CFD) Analysis of Aneurysms Treated with Intrasaccular Devices
12. Delgado J, Kayan Y, Copelan A: Acute Ischemic Stroke Study with the Penumbra System® including Thunderbolt™ Aspiration Tubing
13. Asaithambi G, Young M, Tarrel R, Roohani P, Milner S: Atrial Cardiopathy and Antithrombotic Drugs In Prevention After Cryptogenic Stroke (ARCADIA) [ANW]
14. Asaithambi G, Young M, Tarrel R, Roohani P, Milner S: Atrial Cardiopathy and Antithrombotic Drugs In prevention After cryptogenic stroke - Cognition and Silent Infarcts (ARCADIA-CSI) [ANW]
15. Young M, Asaithambi G, Tarrel R, Roohani P, Milner S: Anticoagulation in Intracerebral Hemorrhage (ICH) Survivors for Stroke Prevention and Recovery (ASPIRE) [ANW]

16. Copelan A, Kayan Y, Delgado J: A Prospective, Randomized, Controlled, Interventional Clinical Trial to Evaluate the Safety and Effectiveness of the Route 92 Medical Monopoint Reperfusion System for Aspiration Embolectomy in Acute Ischemic Stroke Patients
17. Delgado J, Kayan Y, Copelan A: REal-World Analyses of Stroke – Thrombus Occlusion Retrieval (RESTORE)
18. Asaithambi G: Cardiac Abnormalities in Stroke Prevention and risk of Recurrence (CASPR)
19. Asaithambi G: Comparison of Anti-coagulation and anti-Platelet Therapies for Intracranial Vascular Atherostenosis
20. Asaithambi G, Martins S: Advancing evidence base to address healthcare disparities for patients with neurological conditions using NIS data
21. Giannakidis D, Asaithambi G: Zeit Alert for Stroke at Home

Publications, Presentations, and Book Chapters

Publications

Intraoperative Monitoring of the External Urethral Sphincter Reflex: A Novel Adjunct to Bulbocavernosus Reflex Neuromonitoring for Protecting the Sacral Neural Pathways Responsible for Urination, Defecation and Sexual Function. Silverstein JW, Block J, Olmsted ZT, Green R, Pieters T, Babarevech K, Ballas-Williamson A, **Skinner SA**, Sciubba DM, Larry Lo SF. *J Clin Neurophysiol*. 2023 Nov 9. doi: 10.1097/WNP.0000000000001019. Online ahead of print. PMID: 37963332

Examining the feasibility and effectiveness of PEERS for adolescents via telehealth during the COVID-19 pandemic. Lee C, Petricek C, Haga M, Smalley S, Pelletier K, **Essa N**, Hudock R. *Research in Autism Spectrum Disorders*, vol. 109, 102279. Elsevier BV, Nov 2023; 109, 102279. doi.org/10.1016/j.rasd.2023.102279

Feasibility of advanced composite endpoint analysis: Post-hoc insights from the vitamin intervention for stroke prevention randomized control trial. **Asaithambi G**, **Castro-Pearson S**, **Meyer MK**, Barthel B. *Nutr Metab Cardiovasc Dis*. 2023 Jul 22:S0939-4753(23)00297-1. doi: 10.1016/j.numecd.2023.07.028. Online ahead of print. PMID: 37586919

Clot composition and recanalization outcomes in mechanical thrombectomy. Nogueira RG, Pinheiro A, Brinjikji W, Abbasi M, Al-Bayati AR, Mohammaden MH, Souza Viana L, Ferreira F, Abdelhamid H, Bhatt NR, Kvamme P, Layton KF, **Delgado Almandoz JE**, Hanel RA, Mendes Pereira V, Almekhlafi MA, Yoo AJ, Jahromi BS, Gounis MJ, Patel B, Arturo Larco JL, Fitzgerald S, Mereuta OM, Doyle K, Savastano LE, Cloft HJ, Thacker IC, **Kayan Y**, **Copelan A**, Aghaebrahim A, Sauvageau E, Demchuk AM, Bhuvva P, Soomro J, Nazari P, Cantrell DR, Puri AS, Entwistle J, Polley EC, Frankel MR, Kallmes DF, Haussen DC. *J Neurointerv Surg*. 2023 Jul 7:jnis-2023-020117. doi: 10.1136/jnis-2023-020117. Online ahead of print. PMID: 37419694

Safety and effectiveness of the Woven EndoBridge (WEB) system for the treatment of wide necked bifurcation aneurysms: final 5 year results of the pivotal WEB Intra-saccular Therapy study (WEB-IT). Fiorella D, Molyneux A, Coon A, Szikora I, Saatci I, Baltacioglu F, Aziz-Sultan MA, Hoit D, **Delgado Almandoz JE**, Elijovich L, Cekirge HS, Byrne J, Klisch J, Arthur AS. *J Neurointerv Surg*. 2023 Jun 24:jnis-2023-020611. doi: 10.1136/jnis-2023-020611. Online ahead of print. PMID: 37355252

Validation of a neurovascular comorbidity index for risk adjustment of comorbid conditions among ischemic stroke patients receiving reperfusion treatment. **Asaithambi G**, **Martins SL**. *J Stroke Cerebrovasc Dis*. 2023 Aug;32(8):107189. doi: 10.1016/j.jstrokecerebrovasdis.2023.107189. Epub 2023 Jun 20. PMID: 37348441

Reply to Willoughby. Holzbauer SM, Schrodtt CA, Prabhu RM, Asch-Kendrick RJ, Ireland M, Klumb C, Firestone MJ, Liu G, Harry K, Levine MZ, Orciari LA, Wilkins K, Ellison JA, Zhao H, Niezgodna M, Satheshkumar PS, Petersen BW, Rao AK, Bell WR, Forrest S, **Gao W**, Dasheiff R, Russell K, Wiseman A, Reichard RR, Smith KE, Lynfield R, Scheftel J, Wallace RM, Bonwitt J. *J.Clin Infect Dis.* 2023 Sep 18;77(6):931-932. doi: 10.1093/cid/ciad295. PMID: 37200504

Analyzing the value of IONM as a complex intervention: The gap between published evidence and clinical practice. Holdefer RN, Seubert CN, **Skinner SA**, Humbert AT, Edwards ME, MacDonald DB. *Clin Neurophysiol.* 2023 Jul;151:59-73. doi: 10.1016/j.clinph.2023.03.364. Epub 2023 Apr 23. PMID: 37163826

Fatal Human Rabies Infection With Suspected Host-Mediated Failure of Post-Exposure Prophylaxis Following a Recognized Zoonotic Exposure-Minnesota, 2021. Holzbauer SM, Schrodtt CA, Prabhu RM, Asch-Kendrick RJ, Ireland M, Klumb C, Firestone MJ, Liu G, Harry K, Ritter JM, Levine MZ, Orciari LA, Wilkins K, Yager P, Gigante CM, Ellison JA, Zhao H, Niezgodna M, Li Y, Levis R, Scott D, Satheshkumar PS, Petersen BW, Rao AK, Bell WR, Bjerck SM, Forrest S, **Gao W**, Dasheiff R, Russell K, Pappas M, Kiefer J, Bickler W, Wiseman A, Jurantee J, Reichard RR, Smith KE, Lynfield R, Scheftel J, Wallace RM, Bonwitt J. *J.Clin Infect Dis.* 2023 Oct 13;77(8):1201-1208. doi: 10.1093/cid/ciad098. PMID: 36988328

Trends in intravenous thrombolysis utilization for acute ischemic stroke based on hospital size: Paul Coverdell National Acute Stroke Program, 2010-2019. **Asaithambi G**, Tong X, Lakshminarayan K. *Am J Emerg Med.* 2023 May;67:51-55. doi: 10.1016/j.ajem.2023.02.009. Epub 2023 Feb 11. PMID: 36804749

Association of Autologous Tumor Lysate-Loaded Dendritic Cell Vaccination With Extension of Survival Among Patients With Newly Diagnosed and Recurrent Glioblastoma: A Phase 3 Prospective Externally Controlled Cohort Trial. Liao LM, Ashkan K, Brem S, Campian JL, **Trusheim JE**, Iwamoto FM, Tran DD, Ansstas G, Cobbs CS, Heth JA, Salacz ME, D'Andre S, Aiken RD, Moshel YA, Nam JY, Pillainayagam CP, Wagner SA, Walter KA, Chaudhary R, Goldlust SA, Lee IY, Bota DA, Elinzano H, Grewal J, Lillehei K, Mikkelsen T, Walbert T, Abram S, Brenner AJ, Ewend MG, Khagi S, Lovick DS, Portnow J, Kim L, Loudon WG, Martinez NL, Thompson RC, Avigan DE, Fink KL, Geoffroy FJ, Giglio P, Gligich O, Krex D, Lindhorst SM, Lutzky J, Meisel HJ, Nadji-Ohl M, Sanchin L, Sloan A, Taylor LP, Wu JK, Dunbar EM, Etame AB, Kesari S, Mathieu D, Piccioni DE, Baskin DS, Lacroix M, May SA, New PZ, Pluard TJ, Toms SA, Tse V, Peak S, Villano JL, Battiste JD, Mulholland PJ, Pearlman ML, Petrecca K, Schulder M, Prins RM, Boynton AL, Bosch ML. *JAMA Oncol.* 2023 Jan 1;9(1):112-121. doi: 10.1001/jamaoncol.2022.5370. PMID: 36394838

Venous thromboembolism among Medicare acute ischaemic stroke patients with and without COVID-19. Tong X, Yang Q, **Asaithambi G**, Merritt RK. *Stroke Vasc Neurol.* 2023 Jun;8(3):259-262. doi: 10.1136/svn-2022-001814. Epub 2022 Nov 15. PMID: 36379616

Correlation of von Willebrand factor and platelets with acute ischemic stroke etiology and revascularization outcome: an immunohistochemical study. Mereuta OM, Abbasi M, Arturo

Larco JL, Dai D, Liu Y, Arul S, Kadirvel R, Hanel RA, Yoo AJ, Almekhlafi MA, Layton KF , **Delgado Almandoz JE**, Kvamme P, Mendes Pereira V, Jahromi BS, Nogueira RG, Gounis MJ, Patel B, Aghaebrahim A, Sauvageau E, Bhuva P, Soomro J, Demchuk AM, Thacker IC, **Kayan Y, Copelan A**, et al. *Neurointerv Surg.* 2023 May;15(5):488-494. doi: 10.1136/neurintsurg-2022-018645. Epub 2022 May 20. PMID: 35595407

Presentations and Abstracts

Kayan Y. Recorded Brain Aneurysm Treatment Update in the Allina Learning Management System. December 28th, 2023.

Kayan Y. Advances in Neurointerventional Therapy: 2023 Update. Speaker at Neuroscience Nursing Symposium. December 11th, 2023.

Jackson K, Stremski K. Clinical Research and Research Nursing. Speaker at Neuroscience Nursing Symposium. December 11th, 2023.

Meyer M. Research Operations and Clinical Research. Speaker at Neuroscience Nursing Symposium. December 11th, 2023.

Klaiman M. NIH StrokeNet Research. Speaker at Neuroscience Nursing Symposium. December 11th, 2023.

Wasilewski A. Neuro-Oncology: The Latest and Greatest. Allina Health Neuroscience Institute Grand Rounds. Minneapolis, MN. November 2023.

Delgado J, Kayan Y, Copelan AC, Ertelt A, Scholz J. Comparison of Lateral Compression Thresholds for the Prediction of Aneurysm Occlusion and Retreatment after Endovascular Treatment of Intracranial Aneurysms with the WEB Device. Presented as a moderated scientific poster at the Society of NeuroInterventional Surgery 20th Annual Meeting in San Diego, CA on July 31st, 2023.

Delgado J. Value of Antiplatelet Therapy Management and Testing for Neurointerventional Procedures, presented to Neurointerventionalists at the Werfen VerifyNow Neuro Webinar on June 6th, 2023.

Ozair A, Brachman D, Campbell L, Chen C, **Wasilewski A** et al. American Society of Clinical Oncology Annual Meeting. Chicago, USA. Surgically targeted radiation therapy (STaRT) for recurrent glioblastoma: Initial outcomes from a prospective multicenter registry. June 2023.

Delgado J. Nuevo Paradigma para el Tratamiento Endovascular de Aneurismas Cerebrales: La Era de los Diversores de Flujo, presented at the 46th Annual Congress of the Asociación Colombia de Radiología in Cartagena de Indias, Colombia on May 20th, 2023.

Delgado J. Tips y Trucos para Evitar Complicaciones del Tratamiento Endovascular de Aneurismas con Diversores de Flujo y WEB, presented at the 46th Annual Congress of the Asociación Colombia de Radiología in Cartagena de Indias, Colombia on May 20th, 2023.

Delgado J. Casos Interesantes de Diversores de Flujo Intraculares e Intravasculares, presented at the 46th Annual Congress of the Asociación Colombia de Radiología in Cartagena de Indias, Colombia on May 20th, 2023.

Delgado J. La Técnica ADAPT: Tips y Trucos para un Primer Pase Exitoso, presented at the 46th Annual Congress of the Asociación Colombia de Radiología in Cartagena de Indias, Colombia on May 20th, 2023.

Whitt W, Hemminger L, Cawley S, **Wasilewski A**, Mohile N, Hardy S American Academy of Neurology 75th Annual Meeting. Boston, USA.. Treatment Recommendations and Estimation of Toxicity in Older Patients with Glioblastoma. April 2023

Hemminger L, Whitt W, Cawley S, Behr J, Serventi J, **Wasilewski A**, Mohile N, Hardy S American Academy of Neurology 75th Annual Meeting. Boston, USA.. Geriatric-8 Assessment is Predictive of Hospitalization in Patients with Glioblastoma. April 2023

Delgado J. Approach to Endovascular Aneurysm Treatment with WEB at Abbott Northwestern Hospital. Presented to Neurointerventionalists at the EDGE Microvention Symposium in Irvine on April 7th, 2023.

Lee S, Peach MS, Chen C, **Wasilewski A** et al. The Neurosurgical Society of The Virginias 2023 Conference. White Sulphur Springs, USA. Patterns of Clinical Application and 30-day Adverse Events for Patients with Intracranial Neoplasms Undergoing Resection and Implantation of Gamma Tile- Report from a Multicenter Study. January 2023.

McDonald W; College of American Pathologists (CAP) Neuropathology Committee. 2023 NP-A Case 6: Non-neoplastic Pituitary. Northfield, IL: CAP; 2023

McDonald W; College of American Pathologists (CAP) Neuropathology Committee. 2023 NP-B Case 9: Multiple System Atrophy. Northfield, IL: CAP; 2023.

Roohani P. CT scoring method and early multimodal neuroprognostication for poor outcome after cardiac arrest. 2023.

Roohani P. Benefits of Telehealth, given at AH Nursing Symposium. 2023.

Roohani P. Brainerd Hospital education annual stroke education to hospitalist staff. 2023.

Roohani P. St. Francis Hospital stroke updates presentation to ED and hospitalist staff. 2023.

Roohani P. Stroke "Why We Do What We Do." Talk to hospitalist staff 2023.

Roohani P. The benefits of Lytics. Presentation to ED staff. 2023.

Book Chapters

Wasilewski A, Mohile NM ed; Management of the Older Patient; Brain Tumors: A Pocket Guide; Springer Cham; New York City, NY; 2023.