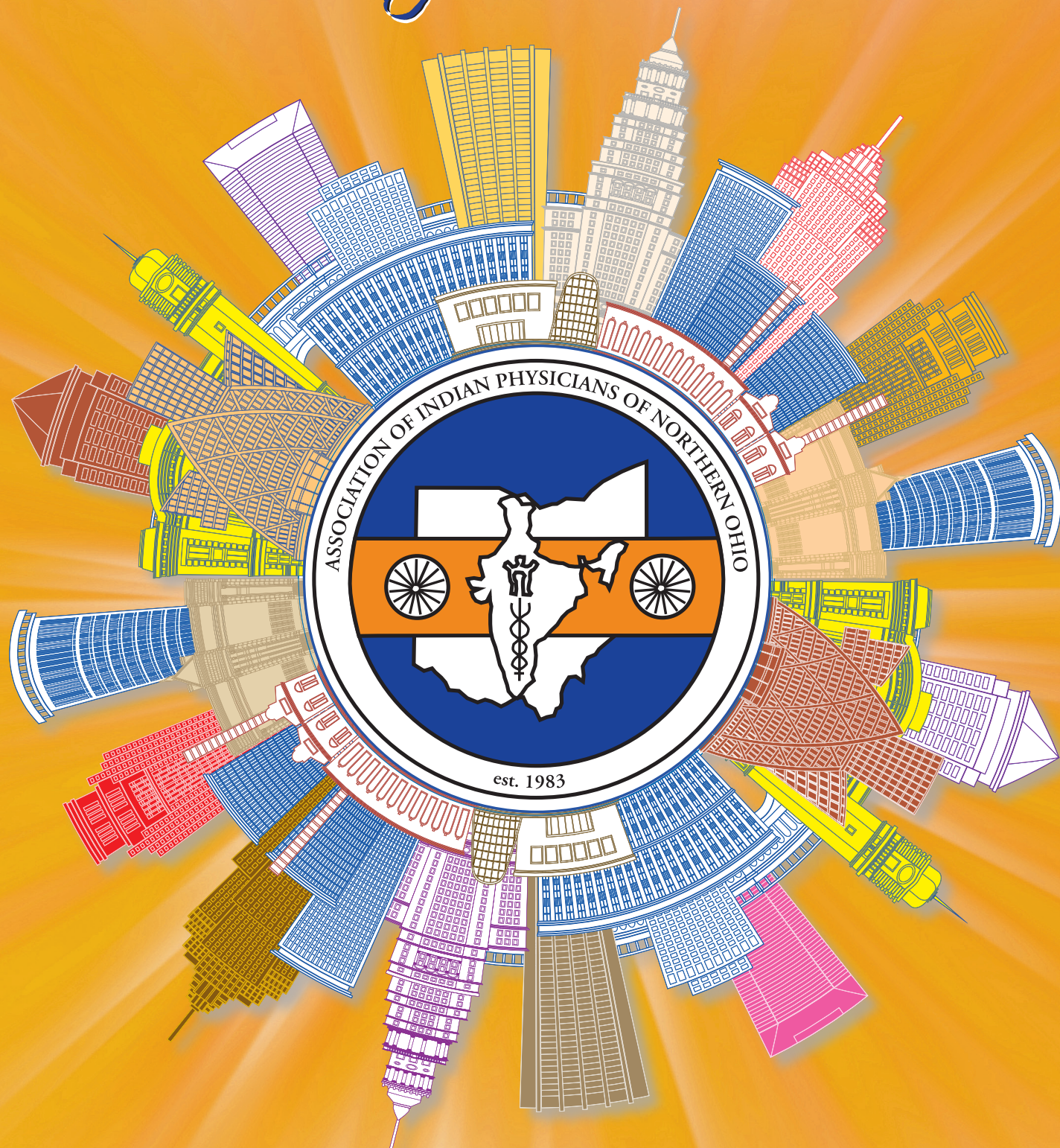


Association of Indian Physicians of Northern Ohio

41st Annual Gala & Fundraiser



and 12th Annual Research Showcase



WYANDOT

MEMORIAL HOSPITAL

KEEPING OUR PROMISE TO BE *YOUR* HOSPITAL

LOCATIONS

Wyandot Memorial Hospital
885 N. Sandusky Avenue
Upper Sandusky, OH
419-294-4991

UrgentCare/JobCare
425 W. Church St.
Upper Sandusky, OH
419-294-4051

Wyandot Medical Providers at Forest
112 E. Lima Street
Forest, OH 45843
419-273-5104

Wyandot Medical Providers at New Riegel
15 N. Perry Street
New Riegel, OH 44853
567-281-1024

Wyandot Medical Providers at Sycamore
412 W. Saffell Avenue
Sycamore, OH 44882
419-927-6552

Wyandot Medical Providers at Tarhe Trail
245 Tarhe Trail
Upper Sandusky, OH
419-294-1525

Hospice of Wyandot Memorial
105 Houpt Drive
Upper Sandusky, OH
419-294-5787

Koehler Pharmacy
425 W. Church St.
Upper Sandusky, OH 419-294-1916

Wyandot Medical Providers at Carey
235 E. North St.
Carey, OH 43316
419-396-9200 | Pharmacy: 419-396-9203

wyandotmemorial.org





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Dr. Saloni Khatri – *through 2025*
Dr. Geeta Pahlajani – *through 2025*
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Dr. Umesh Yalavarthy – *through 2025*

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Vikas Jain, MD

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Geetu Pahalanjani MD

Aparna Harbhajanka MD

Ayesha Rahman

Rita Balwani

Vandana Arora

Saloni Khatri MD



**View the 2024 Annual Report,
and Research Showcase online at:**

www.aipno.org

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AIPNO BOARD OF TRUSTEES REPORT

Rupesh Raina, MD



Dear Esteemed Colleagues, Friends, and Supporters,

On behalf of the Board of Trustees of the Association of Indian Physicians of Northern Ohio (AIPNO), it is my privilege to welcome you to the 2024 Annual Gala. As we come together to celebrate the achievements of this past year, we reflect on our shared mission and look ahead to the future with optimism and determination. This year's souvenir is a testament to the values that guide AIPNO—philanthropy, education, research, and our vision for global healthcare transformation.

Philanthropy lies at the very heart of AIPNO's efforts. We believe that healthcare should be a fundamental right for all, regardless of economic or social barriers. Over the past year, our philanthropic endeavors have extended across local and global communities. Through health camps, free medical services, and donations of critical healthcare supplies, we've impacted thousands of lives. Notably, our partnerships with international health organizations have allowed us to extend the reach of advanced medical care to underserved regions, bringing much-needed resources and expertise. The Women's Initiative, spearheaded by leaders such as Dr. Namrata Kumar and Dr. Vikram Kumar, has provided invaluable support,

focusing on delivering essential equipment and care packages to those in dire need.

Our educational mission remains stronger than ever. AIPNO has long championed the role of education in building a healthier tomorrow. Through scholarships, mentorship programs, and clinical education workshops, we are shaping the next generation of medical professionals. We continue to expand opportunities for students and physicians, offering them platforms to gain hands-on experience, broaden their medical knowledge, and foster leadership. This year, we have strengthened our ties with academic institutions across the globe, helping foster cross-cultural collaboration and promoting innovation in medicine. As we look toward 2025, we envision expanding our educational footprint with international exchange programs that bring together the brightest minds in medicine to solve global health challenges.

Research is where AIPNO truly shines. The quest for advancing healthcare knowledge and improving patient outcomes is at the core of our research initiatives. Our collaboration with leading research institutions has led to groundbreaking studies in areas such as nephrology, oncology, and cardiovascular disease. We are especially proud of our efforts to bridge the gap between clinical research and community health, ensuring that the latest medical advancements directly benefit the communities we serve. In the coming year, we aim to launch a global research platform that facilitates collaboration between clinicians and researchers worldwide, focusing on diseases that disproportionately affect underserved populations.

As we look forward to 2025 and beyond, we are driven by an ambitious vision of transforming global healthcare through innovation, collaboration, and compassion. Our goal is to establish AIPNO as a global leader in telemedicine, providing remote medical consultations to communities with limited access to healthcare. In line with our commitment to reducing healthcare disparities, we are also working on expanding our global outreach programs, focusing on preventive care and chronic disease management in impoverished regions. These initiatives will not only improve access to healthcare but also reduce the long-term burden of diseases on individuals and communities.

Moreover, we are committed to harnessing the power of technology and artificial intelligence to improve healthcare delivery and patient outcomes. By 2025, we plan to integrate AI-driven healthcare solutions into our global outreach, enabling personalized care and data-driven decision-making in resource-limited settings. We also foresee the creation of a Global Health Fellowship Program, where young physicians will have the opportunity to work in diverse environments, addressing both the clinical and social determinants of health.

None of this would be possible without the unwavering support of our members, donors, and partners. Your generosity fuels our initiatives and enables us to pursue our mission with vigor and passion. Together, we are changing our lives, fostering innovation, and advancing global health. As we step into 2025, we are inspired by the limitless possibilities of what we can achieve together.

In closing, I extend my deepest gratitude to each of you. Your dedication to AIPNO's cause has been instrumental in our success. We look forward to your continued support as we strive to build a future where healthcare is accessible, equitable, and driven by compassion.

Thank you for being part of our journey, and I hope you enjoy this year's souvenir—a reflection of our shared accomplishments and our vision for a brighter tomorrow.

With warm regards and heartfelt appreciation,

Rupesh Raina
Chair, Board of Trustees,
Association of Indian Physicians of Northern Ohio (AIPNO)

PRESIDENT’S MESSAGE

Vikram Kumar MD, FACE



Serving as your President has been the honor of my lifetime. This role has provided me with an incredible opportunity to make a difference for the people of Northern Ohio, and for that, I extend my heartfelt gratitude. As you read this, we are celebrating a remarkable year marked by our 41st Annual Gala and Fundraiser, showcasing our commitment to philanthropy and our desire to continually support those in need. Additionally, we are celebrating our scholarships, emerging leaders in healthcare, and the 12th Annual Research Showcase.

When I began my term as President in January, I believed that “there is nothing we cannot do when we do it together.” Together—whether as life partners, members of the AIPNO Executive Committee, the Board of Trustees, or the entire AIPNO team—we have achieved significant milestones in 2024, vividly captured in this booklet. We are now celebrating these accomplishments with some of Cleveland’s foremost leaders, including our chief guest, Dr. Cliff Megerian, and our Transformative Leadership Awardee, Mr. Monte Ahuja. A special thank you to our keynote speakers, Dr. Neil Smith, Dr. Lina

Mehta, Dr. John Langell, and Dr. Michael Forbes, for their invaluable contributions to the Greater Cleveland community.

My leadership journey as President of AIPNO has been supported by my friend, Dr. Rupesh Raina, the invaluable assistance of past president Dr. Aasef Shaikh, and the wonderful partnership of our President-Elect, Dr. Palak Shroff. My ambitions and dreams for this year were vast, and we could only achieve them meaningfully with the support of my dear wife, Dr. Namrata Kumar. In addition to managing our household, Namrata diligently organized and motivated the AIPNO family.

I also want to acknowledge the spouses of our leaders, the unsung heroes who balance family, work, and contribute immensely to our organization’s success. Applause for all the women leaders in AIPNO and the Women’s Wing—Anu Suri, Swati Thakur, Saloni Khatri, and Geetha Krishnan—who deserve special mention. Thank you to the Board of Trustees and the Executive Committee for their dedication.

Our youth philanthropists, Amrita Mukunda and Nikhita Kumar, raised funds for AIPNO, and we couldn’t have succeeded without our tech team—Sumit Bafna, Rajesh Sharda, Chinmay, and Vaishal. A special shoutout to Pam for her unwavering support in keeping AIPNO running smoothly.

AIPNO’s mission is twofold, addressing both local and global needs. Locally, we have nurtured some of the best academicians, scholars, and philanthropists. Globally, our new initiative, AIPNO Global, is taking shape as we extend our efforts to share medical knowledge and cutting-edge research. Through our global wing, Medical Yatra, we are making a meaningful impact in rural India, celebrating 25 years of recognition and service led by Mr. Ramesh Shah. We have sponsored numerous local medical education series in Cleveland and a major international neuroscience conference at the Indian Institute of Technology – Bombay.

Our aim is to improve healthcare access for underserved populations. We honor and support Wyandot Hospital in a rural community and the hospice wing of O’Neill Healthcare.

As an Endocrinologist managing a private practice with my wife and wearing many leadership hats, I see the world from a unique perspective. I serve many underserved people, often far from home. I want to thank all our donors for their generosity and encourage those who haven’t had the chance to contribute yet. Your participation empowers our fundraising efforts for just causes.

Lastly, I express my deep appreciation for my family. Three generations of women physicians—my wife Namrata, always by my side; my daughter Nikhita, a medical student at SUNY Upstate; and my mother, Dr. Sushil Kumar, a retired gynecologist—have all been instrumental in my journey. I also thank my father, Virendra Kumar, my son Varun, and Mrs. Satish Sud and Vikas Sood for their unwavering support.

We take pride in our work and recognize our responsibility to those in need. Let us commit to giving—whether in cash, kind, knowledge, or skills—to both our mother country and the one we have adopted. Together, we can spread happiness and create a better world. Let’s continue this journey together!

PRESIDENT ELECT GREETING and ENDOWMENT COMMITTEE REPORT

Palak Shroff, MD, MBA



Dear AIPNO Friends and Family,

As President -Elect I would like to give a warm welcome to everyone for our 41st Annual Gala and Fundraiser ‘Chirag’ along with our 12th Annual Research Showcase. I am delighted to serve this year, and I want to take a moment to thank our founders, BOT and Executive Committee for bringing together this event and making it a success.

This year our President Dr Vikram Kumar has decided to support locally, and we are proud and thrilled to support two organizations. The first is O’Neill Healthcare Hospice Moments of Joy, who are inspired by the belief of making final wishes come true for patients, and who strive to fulfill their needs and desires, creating meaningful experiences in their final journey. We would like to support them with resources in creating life changing moments for their patients, reflecting our dedication to compassion and support for a patient’s end of life care.

Our second beneficiary is Wyandot Memorial Hospital (WMH). WMH is a critical access hospital along with being a progressive community hospital serving the residents of Wyandot County and its surroundings. Being the only hospital in the county, they openly welcome resources. They have a mission for a mobile health service bus that provides medical tests, health screenings and outreach services in the community for greater access to healthcare.

This contribution would not have been possible without our generous donors, which include local healthcare organizations, local businesses and our members who have continued to support us over the years. This support truly reflects the values of service, compassion and community that are at the heart of our organization. We believe that through this partnership, we will make a lasting difference in the lives of those who need it most.

I would like to make a special mention of Mr. Gary Robinson from Center for Dialysis Care for their unwavering support to AIPNO. Your generosity continues to inspire and empower our mission of care and healing.

Personally, I would like to thank our President Dr Vikram Kumar, BOT Chair Dr Rupesh Raina, Dr Namrata Kumar and Past-President Dr Aasef Shaikh for their unconditional support. Lastly, we would not have been able to anything without the support of our executive assistant Pam Pawelecki who has kept us on track and helped us in every way to put all the events together this year.

“We make a living by what we get, we make a life by what we give” – Winston Churchill

Warm Regards,

Palak Shroff, MD MBA
AIPNO President Elect

CHIEF GUEST:

CLIFF MEGERIAN, MD, FACS

CEO, University Hospitals Health System



Dr. Cliff A. Megerian is Chief Executive Officer of University Hospitals (UH), a comprehensive health system with annual revenues of \$6.0 billion, 21 hospitals (including 5 joint ventures), more than 50 health centers and outpatient facilities, and over 200 physician offices located throughout 16 counties. He assumed this position in February 2021 and joined UH in 2002. He is also the Jane and Henry Meyer Chief Executive Officer Distinguished Chair.

In December 2019, Dr. Megerian was appointed the system's President, where he led the organization through an unprecedented pandemic. Prior to that, he served as President, University Hospitals Physician Network, Physician Services and System Institutes. In these positions, he was charged with managing the clinical integration strategies, policies and practice guidelines for more than 2,500 UH employed physicians as well as the operations and infrastructure for UH system institutes. These clinical care institutes bring highly trained subspecialists together from multiple disciplines to collaborate on the best treatment for patients – promoting uniform, standard care protocols and the sharing of best practices.

Dr. Megerian is also a Professor in the Department of Otolaryngology, Head and Neck Surgery at Case Western Reserve University (CWRU) School of Medicine, where he was Chair from 2012 – 2018 and held the Julius McCall Professorship at CWRU, as well as the Richard and Patricia Pogue endowed Chair in Auditory Surgery and Hearing Sciences at UH. He also serves as an Adjunct Professor of Surgery at Northeast Ohio Medical University.

Dr. Megerian's clinical career has been devoted to the management of hearing loss, chronic ear disease, cholesteatoma, otosclerosis, vertigo, and other otology and neurotology issues. As a surgeon, Dr. Megerian co-founded UH's Cochlear implant program and he and his team have performed over 1,500 cochlear implant surgeries, making it one of the largest programs in the country.

He has published over 130 peer-reviewed manuscripts and abstracts and has served as visiting professor at numerous medical schools and institutions throughout the world. His research interests in the pathogenesis of Meniere's disease have been funded by a number of agencies including the NIH and DRF.

In 2023 and 2022, *Becker's Healthcare* named Dr. Megerian one of the Great Leaders in U.S. Healthcare and in one of the top Highly Successful Health System CEO-CFO Duos. *Ohio Business Magazine* appointed him to the Ohio 500, recognizing the most powerful and influential leaders who are working to make Ohio great. *Crain's Cleveland Business* named Dr. Megerian to the Power 150 – a list of executives leading some of Northeast Ohio's most influential organizations who are in a position to move the region forward. Additionally, digital media company C Suite Spotlight ranked Dr. Megerian among the Top 25 Hospital Executives for 2023. *Modern Healthcare* also named Dr. Megerian one of the 100 Most Influential People in the U.S. healthcare industry in 2023.

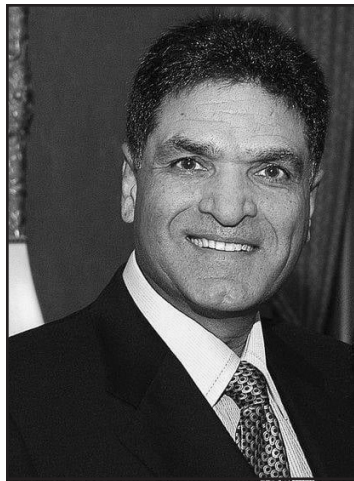
As CEO of University Hospitals, Dr. Megerian also led the system to attain the 2022 AHA Quest for Quality Prize – the industry's most prestigious honor recognizing its member organizations for their commitment to quality.

Dr. Megerian and his wife Lynne Sheffler Megerian, MD, reside in Shaker Heights. They have three adult children.

2024 TRANSFORMATIVE LEADERSHIP LIFETIME AWARD:

MONTE AHUJA

Chairman, CEO, Mura Holdings Inc.



Monte Ahuja, came to the U.S. in 1969 as a student at The Ohio State University in Columbus, Ohio. He graduated from OSU in 1970 with a Master’s Degree in Mechanical Engineering and moved to Cleveland in 1972. While working full time he earned an MBA Degree from Cleveland State University in 1975, graduating with honors (Beta Gamma Sigma).

Business Associations:

In 1975, Mr. Ahuja launched a distribution company immediately following the graduation from CSU with an MBA. Through internal growth and careful strategic planning, he grew the company, Transtar Industries, into an international business, as the leading U.S. company in the distribution of automotive transmission replacement parts to the aftermarket. The business was sold in 2010 and then re-acquired in 2017. Mr. Ahuja is currently Chairman, CEO of MURA Holdings LLC, an investment company and Transtar Industries.

Awards & Recognitions:

Transtar earned dozens of awards for its outstanding growth and community involvement, including the Arthur Anderson 2000 Leadership Award, the Inside Business NEO Success Award, the Association of Corporate Growth Deal Makers Award, Governor’s “E” Award (twice) for excellence in export and runner-up for the National Entrepreneur of the Year competition, sponsored by *INC. Magazine* and Ernst & Young in 1995.

Several awards received personally include:

- Distinguished Alumni Award from Cleveland State University, in 1990;
- George Dively Award by the Harvard University Business School, in 1999;
- Honorary Doctorate Degree in Business, from Cleveland State University, in 2001;
- Ellis Island Medal of Honor for outstanding American Citizens, in 2001;
- International Executive of the Year Award by the World Trade Center of Cleveland, in 2002;
- Distinguished Alumni Award from Ohio State University, in 2003;
- Inducted into the *Inside Business Magazine*, Northeast Ohio Business Hall of Fame, October 2003
- Appeared on a TV series as one of the most distinguished NRI’s from India, produced and telecasted by a major Asian Indian TV Channel (ZTV).

Community Involvement:

Served as Trustee of the Cleveland State University Board for nine years (1991-2000) and its Chairman of the Board for six years. In 1999, CSU named the new Business School building ‘Monte Ahuja Hall’, as its new home for the College of Business Administration.

Currently serving as a member of the board/trustees for the following organizations:

- University Hospital System of Cleveland (Chairman, 2007-2011)
- BioEnterprise Corp. (Board Member)

Previously served with:

- The Musical Arts Association
- The Greater Cleveland Partnership
- Greater Cleveland Roundtable
- The National Conference
- World Trade Center Advisory Council
- Ohio Export Promotion and Trade Council (education committee)

In 2011, University Hospitals named its new hospital “Ahuja Medical Center” honoring the Ahuja family. Also in 2011, Cleveland State University named its business college The Monte Ahuja College of Business.

GUEST OF HONOR:

JOHN LANGELL, MD, PH.D, MPH, MBA



Dr. John Langell was appointed by the Northeast Ohio Medical University Board of Trustees on July 24, 2019 to become the Northeast Ohio Medical University's seventh president, effective October 1, 2019.

Dr. Langell has more than twenty years of experience in higher education and has served in senior leadership positions in academic health care, industry, nonprofit organizations and the federal government.

In his most recent position, Dr. Langell served as vice dean for the School of Medicine as well as founder and executive director of the Center for Medical Innovation, both at the University of Utah. He was recruited to the University of Utah's Department of Surgery in 2006 as its director of acute care surgery and not long afterward also served as chief of general surgery at the George E. Wahlen VA medical Center.

During that same period, Dr. Langell, a veteran of the U.S. Air Force, maintained his reservist status while serving as CEO (Commander) of Air Force Health Care Facilities. Over the course of 11 years—2006 to 2018—he led four separate Air Force Reserve medical facilities. He was responsible for the leadership and management of all medical and allied health professionals as well as administrators.

Dr. Langell has specialized expertise in the treatment of diseases of the upper gastrointestinal tract, biliary tract and endocrine system (thyroid, parathyroid and adrenal glands). His clinical focus is in the application of advanced minimally invasive surgical techniques in laparoscopic surgery with special focus on diseases of the stomach, intestines, liver, gallbladder, pancreas and biliary tree. Additionally, he has expertise in the minimally invasive treatment of hernia disease, including abdominal wall and groin hernias, hiatal hernias, thyroid, parathyroid and adrenal glands.

Dr. Langell is well-known for his work as a minimally invasive gastrointestinal and endocrine surgeon, tenured educator, developer of advanced medical education programs, and federally-funded researcher. But he is equally known for his effective, appreciative and inclusive style as a leader, his expertise as an innovator and operator; and his forward-thinking approaches as a change agent and Lean-Six Sigma Black Belt.

With more than a dozen patents filings—six of which are licensed, three software copyrights and five companies of which he has been a founding partner, Dr. Langell is a supporter of research, enterprise, development and innovation.

Dr. Langell received his Bachelor of Science Degree at the University of California at Los Angeles. He received both his Doctor of Medicine (M.D.) and Doctor of Philosophy (Ph.D.) at Drexel University. Dr. Langell completed his surgical residency at Stanford University Medical Center and a residency in Space and Aerospace Medicine at NASA/ University of Texas Medical Branch (UTMB). During this period, he earned his Master of Public Health Degree at UTMB while researching pharmacological countermeasures for space radiation toxicity. He also has a Master of Business Administration (M.B.A.) Degree, which he obtained in the Executive MBA program at the University of Utah.

Dr. Langell is married to Dr. Sara Whittingham, a former active duty flight surgeon, who currently practices anesthesiology at the University of Utah and the VA medical center.

The couple has two daughters, Sydney and Grace.

GALA KEYNOTE SPEAKER:

NEIL SMITH, DO

President, Fairview Hospital



Dr. Neil P. Smith, is President of Fairview Hospital, which employs more than 2,800 employees. He has served as President of Fairview Hospital since September 1, 2013. In 2023, he became President of the West Submarket of Cleveland Clinic.

A member of the medical staff for Fairview, Lakewood and Lutheran hospitals for the past 22 years, Smith began his leadership career at Fairview Hospital as Assistant Chief of Staff, then Chief of Staff two years later.

Most recently, Dr. Smith served as Fairview Hospital's Vice President of Medical Operations, providing valuable insight from a clinical and administrative perspective regarding the new \$83 million emergency department and intensive care unit. The additions made Fairview Hospital one of the region's most elite.

Dr. Smith received an undergraduate degree in biology from St. Louis University and a medical degree from the Ohio University College of Osteopathic Medicine in 1986. Smith completed his medical residency at Mount Sinai Medical Center, a teaching institution of Case Western Reserve University School of Medicine in Cleveland and was voted Resident of the Year in 1990.

Dr. Smith is a member of the Board of Trustees of Cleveland Clinic and resides in Rocky River with his wife and two children.

RESEARCH KEYNOTE SPEAKER:

MICHAEL FORBES, MD, FAAP, FCCM

Chief Academic Officer; William H. and Rebecca D. Considine Endowed Chair for Pediatric Research; Head, Rebecca D. Considine Research Institute



Dr. Forbes is a Pediatric & Adolescent Intensivist, researcher, and physician executive at Akron Children’s Hospital in Akron, Ohio, USA. He is the Chief Academic Officer, the William H & Rebecca D Considine Endowed Chair of Pediatric Research, and the Head of the Rebecca D Considine Research Institute located on the Akron Campus of Akron Children’s. He was appointed to the faculty at Northeast Ohio Medical University (NEOMED) in 2006 and was appointed Professor of Pediatrics in the College of Medicine in 2020. In early 2024 he was awarded the highest honor conferred by the NEOMED Board Trustees, Distinguished University Professor. He is the 4th such awardee in NEOMED’s 50-year history, and the first NEOMED clinical partner to receive the award.

He arrived in Akron in 2006 and was charged with developing clinical research in critical care. He retired from basic science research and has focused on unraveling the complexities of health services delivery for critically ill infants, children, adolescents, and young adults. He served as Medical Leader of the local Virtual Pediatrics Systems Pediatric Intensive Care Unit national registry and serves on their Technical Advisory Panel. His recent efforts have focused on the integration of the myriad clinical and administrative datasets to gain additional insights into systems of care across the entire continuum from primary care to recovery after hospitalization, as well as the impact of pediatric critical illness on families and communities. The recent integration of population health informatics and community based public health have been added to his repertoire.

He received his bachelor’s degree in chemistry from the University of Pittsburgh, then his Doctorate from the University of Pittsburgh School of Medicine. Intrigued by Pediatrics, he went on to complete his residency and was appointed Chief Resident at the Pittsburgh Children’s Hospital of the UPMC. He completed a Fellowship in Critical Care Medicine at the Pittsburgh Children’s Hospital of the UPMC followed by acceptance into the Mid-Career Investigator program with the National Institutes of Health Pediatric Critical Care & Trauma Scientist Development Program. In 2013 he completed the NIH/National Library of Medicine’s Biomedical Informatics and Data Science Research Training Programs at Woods Hole in Massachusetts. In 2022 he was awarded the University of Pittsburgh Distinguished African-American Alumni Award

He and Dr Yolanda Moore-Forbes have been married since 1986 and they are the proud parents of 2 adult professionals.

MEDICAL EDUCATION KEYNOTE SPEAKER:

LINA META, MD

*Case Western Reserve University School of Medicine: Associate Dean for Admissions,
Professor, Department of Radiology, University Hospitals Cleveland Medical Center*



Dr. Lina Mehta is a seasoned admissions professional, associate Dean for admissions at Case Western Reserve School of Medicine and a Professor of radiology at University Hospitals Cleveland Medical Center. Dr. Mehta has been a vocal advocate for equal access in medical school admissions and has given talks and written articles on the topic of accessible admissions. She is the lead author on a chapter in a forthcoming book entitled, “Creating a Program Within a Culture of Inclusion.”

Dr. Mehta is a radiologist in Cleveland, Ohio and is affiliated with University Hospitals Cleveland Medical Center. She received her medical degree from Northeast Ohio Medical University and has been in practice for more than 20 years.

WOMEN'S WING COMMITTEE REPORT:

President: Dr. Namrata Kumar



I am excited to announce that the Women's Wing has officially been incorporated as a committee of AIPNO this year! The women of AIPNO bring a vibrant perspective to our organization, helping us thrive through our dedication and hard work in supporting our fellow members and administration.

We kicked off the year with our first meeting in February, where we laid out and discussed our agenda. We were honored to be joined briefly by Dr. Raina, the BOT Chair, and Dr. Kumar, the President, who announced the start of the wing.

Saree Event

Our saree event was a resounding success! We take great pride in wearing our national costume, the saree, which unites us regardless of our diverse backgrounds in India. The colors and designs reflected our vibrant culture, and it was a joy to come together with sisters, wives, mothers, and daughters.

Community Engagement

Our commitment extends beyond celebration. At a subsequent meeting at the Event Center bowling, we met Debbie O'Neill and her family, who are dedicated to helping hospice patients in nursing homes—individuals who often fall through the cracks of traditional care.

We joined together to celebrate the **Hospice of O'Neill Healthcare - Moments of Joy** program. This initiative is designed to bring joy and memorable experiences to hospice patients during their most challenging times, allowing families to create personalized events and meaningful gifts for their loved ones.

Moments of Joy Highlights

Here are some memorable experiences funded by the Moments of Joy program:

Porsche Car Show at North Ridgeville: In collaboration with the NEO Porsche Club, we brought over 15 classic cars to a special patient who had always dreamed of attending a car show. This event created a memorable afternoon filled with joy and excitement.

Memorial Tree Planting in Strongsville: In honor of a patient's husband, a veteran who recently passed, we planted a tree in the community. The patient's wife received a commemorative plaque, and a ceremony with lunch was organized for her family and our hospice staff to celebrate her husband's memory.

Additionally, the Moments of Joy fund allows us to create smaller, yet significant gestures throughout the year, such as providing cozy blankets for long-term hospice patients and delivering flowers and desserts to celebrate patient birthdays.

These gestures, personally delivered by our hospice team, provide comfort and connection in simple but meaningful ways. Our chaplain, Zach, often shares his musical talents with patients, and Joann from Social Work brings her dog Stella for visits, brightening their days. Our aides also make it a priority to take patients outside to enjoy fresh air on beautiful days. These small acts of kindness create cherished moments that make a lasting difference.

Conclusion

We are proud of the impact the Women's Wing is making within AIPNO and in our community. We look forward to continuing our work together, fostering connections and support for those in need, while celebrating our rich culture. Thank you for your support and engagement as we move forward!

2024 AIPNO BENEFICIARY: O'NEILL HEALTHCARE

O'Neill Healthcare

Compassionate supplemental care with a focus on comfort and quality of life.

Purpose

O'Neill Healthcare Hospice provides extra care and comfort to our facilities' residents and people in surrounding areas during the end stages of life. The hospice staff works closely with the facility staff to become one team that delivers care and enhances the quality of life of the resident.

Our Mission

O'Neill Healthcare Hospice's mission is to help patients and their families achieve the highest level of comfort and quality of life possible while remaining in the security of their own environment.

Locations in Bay Village, Fairview Park, Lakewood, Middleburg Heights, North Olmsted, and North Ridgeville

2024 AIPNO BENEFICIARY: WYANDOT HOSPITAL



WYANDOT

MEMORIAL HOSPITAL

Wyandot Memorial Hospital first opened its doors on September 25, 1950, and the staff knew they had an important responsibility to provide local residents with high quality care they could rely on.

As time went on, our hospital evolved to meet the changing needs of the population. In-hospital technology has been consistently upgraded in order to provide safer and more precise services.

Physician qualifications have grown more rigorous as we continue to build an elite team of medical providers who are prepared to handle any situation. Most importantly, we have upgraded our hospital and processes based on the feedback of patients so that we can create a truly accessible and reliable medical service.

Our Mission What we do – Keeping Our Promise to be Your Hospital

Our Purpose What we are about – Providing superior compassionate healthcare to all we serve

Our Values What we live by – PROMISE

- Progress – Better tomorrow than today
- Relationships – Honest, respectful and transparent in all interactions
- Outcomes – Optimize processes to achieve better results
- Make a difference
- Integrity – Do the right thing
- Stewardship – Responsible use of all resources entrusted to us
- Excellence – Exceptional Care, Exceptional Service...Every Patient, Every Time

AIPNO Beneficiary History

- 1992 - The Free Clinic of Greater Cleveland
- 1993 - Cleveland Sight Center
- 1994 - Templum house
- 1995 - Project Act
- 1996 - Providence House
- 1997 - Boys Hope
- 1998 - The Help foundation Inc.
- 1999 - Cleveland Sight Center
- 2000 - Center for Prevention of Domestic Violence
- 2001 - The City Mission
- 2002 - Make-A-Wish Foundation
- 2003 - Membership for a Safer Cleveland
- 2004 - Cystic Fibrosis Foundation, Rainbow Chapter
- 2005 - Leukemia and Lymphoma Society Inc.
- 2006 - ALS Association
- 2007 - Ronald McDonald House
- 2008 - MetroHealth burn fund
- 2009 - The Lymphoma & Leukemia Society, Northern Ohio Chapter
- 2010 - The Diabetes Association of Cleveland
- 2011 - Cleveland Metropolitan School District
- 2012 - The American Heart Association
- 2013 - The Alzheimer's Association, Cleveland Area Chapter
- 2014 - The Kidney Foundation of Ohio
- 2015 - Minds Matter, Cleveland
- 2016 - Scott Hamilton C.A.R.E.S. Foundation
- 2017 - Recovery Resources
- 2018 - Benjamin Rose Institute on Aging
- 2019 - WomenSafe, Inc.
- 2020 - National Kidney Foundation
Hattie Larlham Foundation
- 2021- Facing History and Ourselves
Akron Children's Hospital
- 2022 - Camp Ho Mita Koda
- 2023 - Dystonia Medical Research Foundation
- 2024 - O'Neill Healthcare
Wyandott Memorial Hospital



2024 DISTINGUISHED PHYSICIAN OF THE YEAR:
SANJAY RAJAGOPALAN, MD, MBA



Dr. Sanjay Rajagopalan is a visionary Physician Leader, with a proven track record of driving excellence, fostering innovation, and implementing strategic initiatives and change in Cleveland who is being recognized for his contributions both in Cleveland in helping communities and impacting health at a global scale.

Dr. Rajagopalan is the Chief of Cardiovascular Medicine, Chief Academic and Scientific Officer, University Hospitals Harrington Heart and Vascular Institute, Cleveland, Herman Hellerstein MD Chair of Cardiovascular Research and a tenured Professor of Medicine and Biomedical Engineering at Case Western Reserve School of Medicine, Cleveland, OH.

Dr Rajagopalan grew up in India and attended University of Madras, India for medical school. He underwent residency and Chief Residency at the State University of New York in Buffalo and completed a cardiovascular medicine and vascular biology fellowship at Emory University Atlanta GA. He also underwent advanced cardiovascular imaging training in Cardiovascular CT and MRI at

Cornell and Duke Universities. Dr. Rajagopalan additionally has an MBA from the Sloan School of Management at the Massachusetts Institute of Technology. He has previously served as Faculty at the University of Michigan, Ann Arbor, Mount Sinai School of Medicine and the University of Maryland where he served as Co-Director of the Cardiovascular Institute prior to coming to University Hospitals.

As an international recognized Physician Scientist with numerous contributions, Dr. Rajagopalan's contributions can be summarized in 4 broad thematic areas that brought him international recognition and awards.

1. Advancing innovative approaches for the diagnosis and treatment of heart disease
2. The global health impact of environmental factors and climate change
3. Sustainability Frameworks and Reduction of Health Impact of Pollutants
4. Policy implementation for environmental standards in the US through the Clean Air Act and globally through the WHO.

Over his academic career, he has published over 600 papers, 4 Textbooks, 4 Monographs, with a citation h-index of 106, placing him in the top 5% of most cited authors. Dr. Rajagopalan is also an entrepreneur founding a company InVasc Therapeutics, that raised over \$6 million in Venture funding, taking a drug to Phase 2 trials.

At UH, Dr. Rajagopalan has been an exemplary architect in bringing several innovative programs that have transformed the healthcare landscape in Cleveland.

These include the Community Impact No Charge Calcium Artery Calcium (CAC) Scoring program together with Dr. Dan Simon and the Department of Radiology that has been highly impactful in providing a precision health measure for cardiovascular disease, at no-cost to Clevelanders. He is the founding Director of CINEMA, a visionary nationally recognized cardiometabolic program that has received national attention for its work, the Founding Director of the Center of Advanced Heart and Vascular Care, a state of the art imaging center that provides world class advanced imaging at UH and Founding Director of ACHIEVE-GREATER a unique program targeting Cardiovascular Health in Minorities in Cleveland, through funds raised from the National Institutes of Health. The value of these programs to Cleveland cannot be overstated. He also recently started a Data Analytics Boot Camp directed towards High School kids who learn about the Environment and Health connections using data science approaches at UH and CWRU over the summer. Finally, you can see Dr. Rajagopalan at the local hindu temple on weekends where he enjoys learning from students and introducing them to the ancient philosophic traditions of India including the Upanishads and the Gita.

Dr. Rajagopalan is an elected member of the American Society of Clinical Investigation (ASCI), American Association of Physicians (AAP), American Professors of Cardiology and is the recipient of the highest scientific award from the American College of Cardiology, the Distinguished Scientist Award in 2022

2024 DISTINGUISHED EXECUTIVE MEMBER OF THE YEAR
VAISHAL A. SHAH, MD, MPH, FAAP, FAASM



Sleep is one of the best medicine, it is free, and it does not require prior authorization!! When someone asks me, why I chose to be a sleep doctor? I jokingly reply: “Because there are no limits to how far my dreams can go” and this is how I envision field of sleep medicine. A field with limitless opportunities to grow.

Dr. Shah currently serves as the Director of Sleep Disorder Center and a staff physician at the Cleveland Clinic within Neurological Institute. He completed medical college from Smt. N.H.L. Municipal Medical College, Ahmedabad, India in 2008 and immigrated to the United States. His educational journey continued with Masters of Public Health (MPH) at Cleveland State University, a pediatrics residency and Sleep Medicine fellowship at Cleveland Clinic, before he joined as a staff physician at Cleveland Clinic in 2016. Since that time his clinical endeavors include pediatric and adult sleep clinics. Additionally, he has been one of the few sleep specialists with training in utilizing cutting age technology in diagnosis and treatment of sleep disorders, hypoglossal nerve stimulation, for OSA management in Continuous Positive Airway Pressure (CPAP) intolerant patients. He has published in peer reviewed journal and nationally presented on outcomes of HNS therapy. He is an AIPNO executive committee member and hopes to help advance AIPNO’s mission.

When not sleeping and helping others sleep, he enjoys traveling. He is an avid Pickleball and table tennis player and loves to play with humans and robots!! He invites anyone who would love to hit a few rallies with him. He lives with is beloved wife Aditi and son Neer in Avon Ohio.

2024 PRESIDENT'S APPRECIATION AWARD

PRAKASH CHAND, MD



Dr. Prakash Chand is an established practicing Hepatologist and Hospitalist in the community in Wooster Community Health System and hospitalist in the University Hospitals, Elyria Medical Center. His career is dedicated to the understanding of patient's health related case-history and customizing the tailored care according to their requirement and socioeconomic boundary. His clinical interest and expertise in Hepatology includes a wide area of liver diseases including Autoimmune hepatitis, Primary Biliary Cholangitis, Cirrhosis, benign and malignant liver tumors and new evolving arena of metabolic dysfunction- associated steatotic liver disease (MASLD). He is also an active member of the Medical Executive Committee in WCHS, Wooster. He has special interest in Quality Improvement and is involved in different projects in the hospital to improve the quality of patient care.

His medical journey starts from M.B.B.S from RIMS, Ranchi, then post-graduation in General Surgery from Raipur, India. Then he moved to the US and completed Internal Medicine Residency in JHMC, Albert Einstein College of Medicine, Queens, NY. Thereafter, he pursued higher studies in the Transplant Hepatology fellowship from Rutgers University, Newark, NJ and moved to Cleveland to pursue his medical career.

Dr. Chand is an active executive committee member and Secretary of AIPNO and is proud to give back to the local northeast Ohio community and his motherland, India. It is encouraging to see AIPNO has grown in almost all spheres of life of Northeast Ohio and spreads its wings since its inception in 1983 like AIPNO Summer Research program, youth initiative program, organizing medical camps, medical yatra, funding research showcases for budding medicos and young scientists, food and shelter programs for marginalized people of Northeast Ohio. He takes special interest in teaching medical students, residents and research fellows in tools of Biostatistics to pursue their career in clinical research. To serve the community and humanity is the way for satisfaction in his life.

AIPNO OUTSTANDING COMMITMENT AWARD:
DR. NAMRATA KUMAR



Dr. Namrata Kumar is a distinguished graduate of SCB Medical College in Cuttack and an ex-resident of GTB Delhi. AIPNO leadership applauds her unwavering commitment to enhancing the organization through improved event quality and successful fundraising initiatives.

In addition to her leadership within AIPNO, Dr. Kumar runs a thriving endocrine practice alongside her husband in Cleveland. She serves as a dedicated faculty member for the Physician Assistant programs at both Case Western Reserve University and Baldwin Wallace College.

Dr. Kumar has also initiated a micro-internship course at Oberlin College, designed for aspiring medical students. This program encompasses crucial areas such as office workflow, patient insurance and billing, along with valuable shadowing experiences.

As a mother, entrepreneur, and woman leader, Dr. Kumar is deeply passionate about helping others grow and providing support to those in need. Her enthusiasm for life and commitment to service are truly inspiring.

Having been associated with AIPNO for several years, Dr. Namrata Kumar has been a driving force behind the revitalization and improvement of the organization. Her dedication and vision have made a lasting impact, and we are proud to honor her with the Outstanding Commitment Award.

2024 MEDICAL STUDENT SCHOLARSHIP AWARD:

JACK HU



Jack Hu is originally from Marietta, Ohio, where I graduated from Marietta High School in 2016. I then earned my bachelor's degree in biology, with a minor in psychology, from Case Western Reserve University in 2020. Currently, I am a medical student at Northeast Ohio Medical University, class of 2026, where I am taking a research year serving as a Research Fellow with Dr. Rupesh Raina at Cleveland Clinic Akron General. My research interests include medical education, as well as pediatric and adult nephrology topics. I am also completing an Academic Teaching Fellowship at NEOMED, where I serve as a faculty clinical instructor to the first- and second-year medical students.

Looking ahead, I aim to pursue a career in internal medicine, or possibly combined internal medicine/psychiatry, with a focus on academic medicine. Outside of my professional pursuits, I enjoy playing tennis, karting, cooking, and hiking. I reside in Chagrin Falls with my girlfriend, Sydney, and our Bernese Mountain Dog, Marlowe. I'd like to use this opportunity to thank Dr. Raina, the NEOMED faculty, Sydney, and my family for their support.

2024 MEDICAL STUDENT SCHOLARSHIP AWARD:

KHYRUL KHAN



I am a first-generation Bangladeshi immigrant to the US and the first in my family to attend medical school. Growing up in a lower-middle-class family, my parents, especially my mother, impressed on me that my primary role was to be a student. She emphasized education is a life-long gift that has to be earned for oneself. My parents made a lot of sacrifices to allow me the privilege of concentrating on my studies and to carve out a promising path toward higher education for myself the likes of which few in my immediate family had been able to achieve. In this journey, I came to realize that the role of mentors was paramount. When I came to the States in pursuit of my bachelor's degree on a full merit scholarship, I was eager to seek out and grateful to receive the guidance of invested faculty advisors who helped broaden my horizon and made me believe I could achieve my dream of becoming a physician one day. Following graduation, this thread of meaningful mentorship continued as I learned valuable basic sciences research skills from my principal investigator at Brigham and Women's Hospital and came to

appreciate the nuances of practicing clinical medicine from my primary care physician mentor at Oak Street Health. These formative life experiences made me appreciate the transformative value of education and purposeful guidance and instilled in me a passion for advancing education and mentorship in all forms, from academics to peer teaching and health literacy.

Throughout my undergraduate career and continuing at the Case Western Reserve University School of Medicine where I am currently a second-year medical student, I have made and continue to make intentional efforts to give back to my community. I am involved in multiple med-premed mentor-mentee programs where I get to share my journey to medicine and help provide resources for successful medical school applications to Case undergraduates. I have also volunteered as a student admissions committee member over the past year to aid in recruiting the next class of future physicians. Health literacy and patient education are major interests of mine and to that end, I continue to volunteer at a local home for the homeless where I have the privilege of connecting with senior residents about various healthcare-related topics and performing important preventive screenings such as blood pressure checks. One of my major student leadership roles over the past year has been to serve as Board Chair for the Student Committee on Medical Education. This role has allowed me to explore my interest in medical education and curriculum development while granting me the privilege to represent and advocate for the interests of my peers. Reflecting on my experience leading up to this point in my life, I realize how it took a village of supporters who believed in me and made it possible to realize my dream of becoming a physician. Now I strive to be a village member for someone else, be it a peer or a patient, to help them achieve their long-cherished goals.

AIPNO GLOBAL SAMARITAN AWARD:

MARIAM CREMER, MD, MPH



Dr. Miriam Cremer is the President and Founder of Basic Health International an association whose mission is to eradicate cervical cancer. She is also an Professor of Obstetrics and Gynecology at Cleveland Clinic Lerner College of Medicine and a board certified obstetrician and gynecologist who is Fellowship trained in Family Planning. She has received multiple grants and awards for public health projects both nationally and internationally, including First Prize for Original Research from the Federation of Latin American Obstetrics and Gynecology (FLASOG) in 1999, Woman of the Year from the Western Center for Law and Poverty in 2005, and Women Making Global Impact in 2013. Her specific research interests include cervical cancer screening with HPV DNA testing including self-collection, HPV vaccination dissemination, and new methods of cervical cancer pretreatment including non gas-based ablative treatments.

Dr. Cremer was a contributing author of the World Health Organization (WHO) Guidelines: Use of Cryotherapy for Cervical Intraepithelial Neoplasia, published in 2011, and is the Principal Investigator on several large trials that are funded by the National Cancer Institute, the Rising Tide Foundation and other private donors. In partnership with the El Salvador Ministry of Health, she has been instrumental in helping change the Salvadoran national cervical cancer screening guidelines.

Dr. Cremer has been an invited speaker at many national and international conferences, including the African Regional Conference (2014), Eurogin (2015), Point of Care Technologies Conference - NIH (2015), and the Society of Gynecologic Oncologists (2016) Lady Ganga (2019)

AIPNO GLOBAL HEALTH AWARD:
CLARE RIGNEY



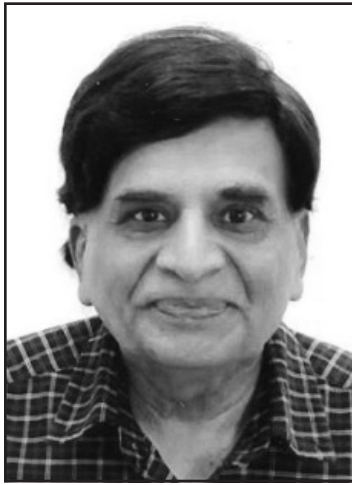
Clare Rigney, currently a fourth-year medical student at NEOMED, has been involved in global health since her time at Ohio State University, earning a minor in global health in 2018 along with a B.S. in Molecular Genetics. During her time there, she participated in research involving health care service provision for women with HIV in the Democratic Republic of Congo under the direction of Dr. Marcel Yotebieng and Dr. Christian Mpody. Her commitment to serving underserved populations continued with internships in Columbus Public Health Department and the Peace Corps and education regarding Urban Health through Cleveland State University.

Her contributions to global health could not have been made possible without the mentorship and support of Dr. Raina Rupesh, Mr. Victor Torres, and Dr. Bernhard Fossil. Clare co-founded NEOMED's Global Health Interest Group, working with its Center for Global Health Innovation. She embarked on a month-long trip to Mota Fofalia, Gujarat, India to observe health service provision for women and children. After, Clare demonstrated her continued commitment to global health through additional research on global cesarean section safety and folate supplementation with The G4 Alliance.

Interested in a General Surgery residency, Clare plans to continue to pursue global health opportunities and work with the underserved in residency and beyond.

AIPNO LUMINARY AWARD:

JAYANTILAL BHIMANI, MD



Dr. Bhimani is a distinguished physician who began his medical Journey at M. P Shah Medical College in India, where he graduated in 1981. Following his medical education, he pursued an internal medicine residency at Lutheran hospital, affiliated with Cleveland Clinic in Cleveland, Ohio completing the program in 1995. Since then, Dr Bhimani has built a thriving private practice specializing in internal medicine.

In addition to caring for his patients, Dr. Bhimani has made significant contributions to medical education and administration. He served as the Associate Program Director at St. Vincent's Residency Program and as an Associate Clinical Professor at Northeast Ohio Medical University (NEOMED). His Leadership roles include being the Chairman of the Department of Medicine at Lutheran Hospital and the Director of Quality Management, where he has played a key role in improving patient care standards.

Dr. Bhimani remains an active staff member at both Lutheran Hospital and Fairview Hospital, continuing his commitment to patient care and medical excellence.

Beyond his professional achievements, Dr. Bhimani has been actively involved in serving this community. He has been a member of the Association of Indian Physicians of Northern Ohio since 1996, serving on the Executive committee in 2007. He was instrumental in organizing the Shiva Vishnu Temple Health fair, providing much-needed health services to the local community.

Dr. Bhimani is also deeply committed to global health initiatives. He has helped raise funds for Medical Yatra, an organization that provides medical services to underserved populations in India, and he has personally participated in medical missions to India.

Since 1997, Dr. Bhimani has also contributed to the advancement of medical knowledge by participating in numerous pharmaceutical studies. His involvement includes significant research work such as Pharmacia's ACES Study, the Efficacy of Axert, GlaxoSmithKline's IBS Study, and Novartis' LOGIC study, showcasing his dedication to improving treatments and outcomes for patients.

Dr. Bhimani continues to be a pillar in both the medical and local communities, blending his clinical expertise with his passion for teaching, leadership and humanitarian efforts. Therefore, AIPNO is thrilled to present him with this years Luminary Award.

AIPNO YOUTH LEADERS IN PHILANTHROPY AWARD:
AMRITA MUKUNDA AND NIKHITA KUMAR

AIPNO is pleased to recognize the following Youth Leaders in Philanthropy for 2024!

Amrita and Nikhita raised funds for the 2024 AIPNO Annual Gala. Their efforts have raised over \$5,000.00 and their invitation to match funds was met with great enthusiasm by the AIPNO members. This resulted in a collection of over \$10,000.00 towards AIPNO philanthropic efforts!!

AIPNO thanks these youth leaders and invites more youth participation in the future!!



Amrita Mukunda

M1, CWRU
School of Medicine



Nikhita Kumar

M2, S.U.N.Y Upstate NY
School of Medicine

SOCIAL COMMITTEE REPORT

Chairperson: Dr. Namrata Kumar



The AIPNO Social Committee had a fantastic year in 2024, filled with vibrant events that celebrated our community and heritage.

Here's a recap of our key activities:

Annual Picnic - August 25th

Our picnic at Brecksville Metropark started with rain but cleared up beautifully, allowing everyone to enjoy the day. The covered area with a kitchen was a blessing, and we had a wonderful variety of food, including catered dishes, chai, and contributions from attendees. The children had a great time with games, music, and bingo, bringing much joy with small prizes.

Indian Independence Day Celebration - August 18th

Hosted by IFUSA and led by President Bharat Kumar, this event was a resounding success. AIPNO President Dr. Vikram Kumar delivered an inspiring speech about AIPNO's impact over the past 40 years. Despite the rain, attendees celebrated our heritage with delicious Indian food and a showcase of traditional jewelry and clothing, attended by mayors, dignitaries, and leaders from various Indian organizations.

AIPNO Health Fair - September 14th

This year, AIPNO physicians hosted a community health fair at the India Festival, USA's 15th Annual Cultural Festival at Broadview Heights High School. Representatives from various specialties, including Primary Care, Endocrinology, Neurology, Ophthalmology, Nephrology, and Pediatrics, provided valuable consultations. Attendees received answers to healthcare questions along with blood pressure and blood glucose checks. We also had volunteer high school and medical students assisting, learning the art of giving back to the community.

AIPNO Karaoke Night - April 13th

This annual event at Saffron Patch West attracted many budding singers who showcased their talents. The evening was filled with music, followed by a DJ event and dancing. As always, the food was delicious, adding to the festive atmosphere.

The Art of Living Workshop - April 21st

This workshop focused on traditional Indian yoga methods, including breathing techniques and meditation. Participants learned valuable skills to alleviate modern-day stress and improve sleep, promoting a more relaxed lifestyle.

Run for Sewa - September 22nd

AIPNO proudly supported this annual fundraiser at Avon Lake Metropark, raising funds for SEWA International. The Avon Lake Mayor encouraged participants in this meaningful event, which supports families and educational initiatives like ASPIRE for children. A heartfelt thank you to SEWA President Anil Singh for their continued partnership.

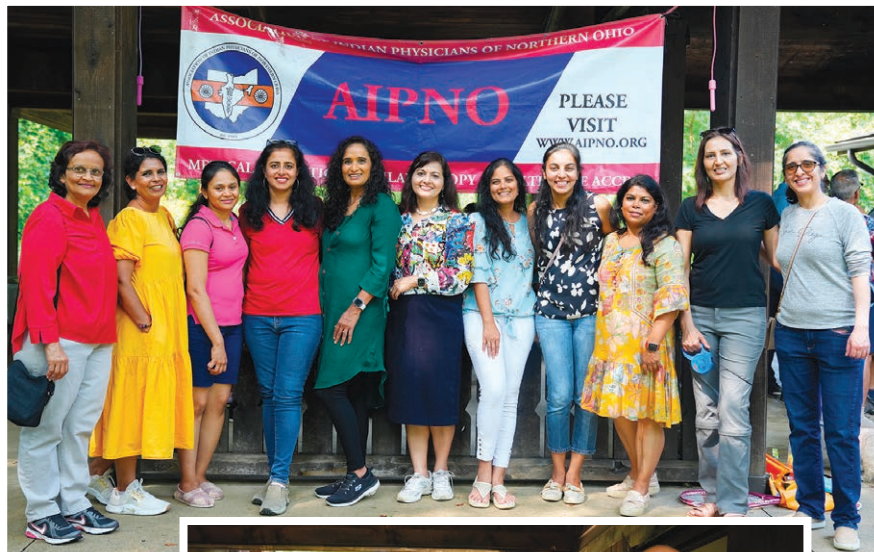
Conclusion

We are grateful for the participation and enthusiasm of our community, which made these events successful. We look forward to another year of celebration and engagement in 2025!

*The year was filled with many memorable events.
On the following pages, we share some glimpses with you.*



AIPNO
Annual Family Picnic,
August 25th, 2024



AIPNO Family Picnic August 25th, 2024



*AIPNO Family Picnic
August 25th, 2024*



*AIPNO Family Picnic
August 25th, 2024*



Indian Independence Day Celebration August 18, 2024



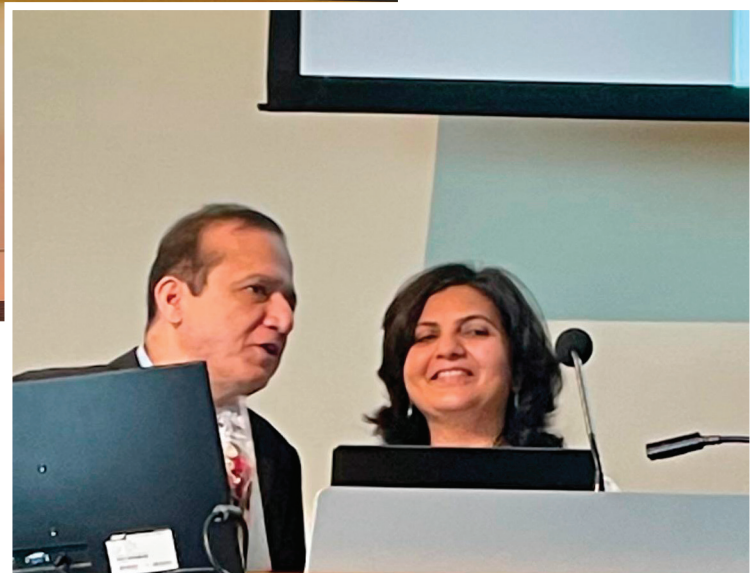
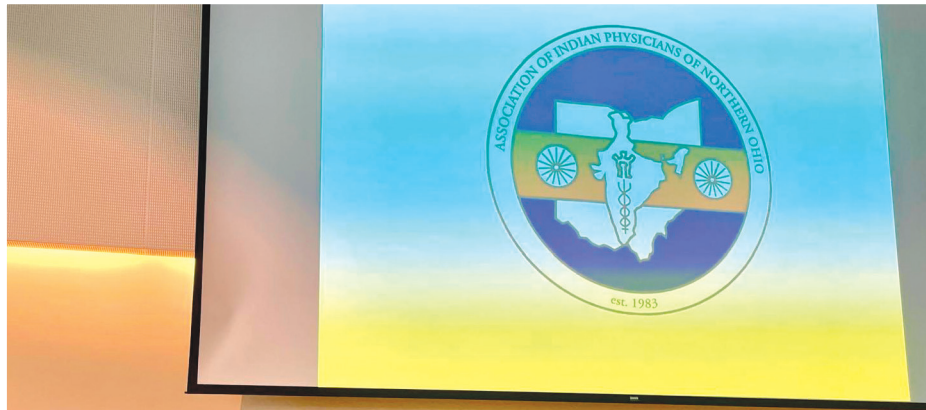
Health Fair - September 24, 2024



Karaoke and Sari Night - April 13, 2024



Art of Living - April 21, 2024



Run for Sewa - September 22, 2024



AIPNO-Women's Social, February 25th 2024



GANESH VANDANA

Thank you medical students from Greater Cleveland for your Ganesh Vandana dance performance at the 2024 AIPNO Gala.

Nikhita Kumar M-2 SUNY Upstate Medical University

Bunsi Chapadia M-2 Ohio University Heritage College

Maithili Patel M- Ohio University Heritage College

For these three medical students, performing arts, especially Kathak has become a vital part of their lives since a very young age. Beyond just a form of art, the dance helps them unwind from the stresses of medical school and embrace joy.

Through Kathak, they've gained invaluable skills such as focus, discipline, work ethics, and leadership, all of which enhance their personal and professional development.

This balance between their rigorous studies and the grace of dance allows them to approach both their education and their lives with a renewed sense of purpose and creativity.

Three cheers from the Gala committee and AIPNO team.



HUMANITARIAN COMMITTEE REPORT 2024

Chairperson - Saloni Khatri, MD

“We make a living by what we get. We make a life by what we give.”



AIPNO members have been modeling this principle in thought and actions. AIPNO continues to serve the community in need through the initiative of serving food to local homeless shelters. Monthly deliveries have been made to numerous shelters due to the generosity of our AIPNO members. This program was started in 2020 during the COVID pandemic as AIPNO leadership sensed the needs of the Cleveland community and continues this year under the dynamic leadership of Dr. Vikram Kumar. The shelters that the initiative has been able to serve in 2024 include Blessing House, Saint Herman’s Shelter, Family Promise of Greater Cleveland, Zelma George Family Center, Saint Elizabeth catholic charity, Norma Herr Women’s Shelter of YMCA, Hitchcock Center for Women, and Laura’s home. The words of gratitude that we have received from these shelters are commendations on AIPNO’s positive impact on our local community.

Cleveland Clinic has reported health benefits of giving. According to scientific research there is a chemical response that takes place in one’s body when we give. This includes secretion of serotonin, dopamine, and oxytocin from one’s brain. The same article published in December 2022, also reports that helping others leads to lower blood pressure, longer lifespan and decrease in stress levels.

AIPNO members understand that well and embody this. The team continues to stay inspired in its service. The generous hearts of AIPNO members renew one’s faith in the kindness and compassion of humanity.

“If you are in the luckiest one percent of humanity, you owe it to the rest of humanity to think about the other ninety nine percent.” - Warren Buffett

We express our gratitude for all the contributions through which the greater community has benefitted.

Thank you!

Dr. Saloni Khatri, MD
Chairperson,
AIPNO Humanitarian Committee



“We had lots of happy kiddos at the shelter today! I really liked getting the delivery earlier than we usually do. It was lunch time and that was perfect. Our families always appreciate your donation. Thank you so much for your continued thoughtfulness and generosity.”

Lisa, Shelter Coordinator



Women's Wing Bowling Event June 9, 2024

Our women members had a stress busting event organized by Dr. Namrata Kumar, at Main Event in Avon, OH on June 9th, 2024. This event was sponsored by O'Neil Healthcare and the women enjoyed bowling and strengthening their sisterhood.



Annual Golf Tournament - July 28, 2024

Arun Gupta, MD hosted the Annual Golf Tournament on July 28th, 2024 at Stone water Golf Club in Highland Heights, OH. This event enjoyed by all the golf enthusiasts in our organization.

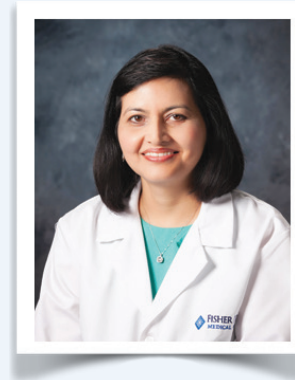


AIPNO Tennis Tournament - May 11, 2024

We hosted our annual tennis tournament at the Mayfield Village Racquet Club in Mayfield Heights, OH on May 11th, 2024. Members showcased their tennis skills in round robin and we felicitated our winners.



AIPNO WOMEN'S INITIATIVE: ***Empowering Leadership and Supporting Hospice Care***



Under the leadership of Dr. Namrata Kumar and AIPNO President Dr. Vikram Kumar, the Women's Initiative of the Association of Indian Physicians of Northern Ohio (AIPNO) has undertaken a significant mission to support hospice patients in need. In collaboration with O'Neill's Healthcare and their multiple nursing homes across Greater Cleveland, this initiative emphasizes providing essential support such as equipment, blankets, and other necessary items to enhance patient care and comfort.

This compassionate endeavor aims to address the needs of the most vulnerable patients, ensuring they receive comprehensive support during their hospice journey. The Women's Initiative is dedicated to finding various means to assist these patients, demonstrating a commitment to community service and healthcare excellence.

AIPNO is honored to have Mrs. Debbie O'Neill and John O'Neill, President and CEO of O'Neill's Healthcare, address the AIPNO women at the upcoming event. Their insights and leadership will inspire and empower the women of AIPNO as they continue to develop and establish their roles within the organization.

Under the dynamic leadership of Dr. Namrata Kumar, the section focused on empowering AIPNO women leaders is poised to make a significant impact. This initiative reflects the vision of President Dr. Vikram Kumar to foster strong, effective leadership among the women of AIPNO, ensuring they are well-equipped to lead and innovate in the healthcare sector.

Together, AIPNO and O'Neill's Healthcare are dedicated to making a meaningful difference in the lives of hospice patients, showcasing the power of collaboration and compassionate care.

General Body Meeting and Finance Estate Planning and Tax Savings March 30, 2024

Our Annual General Body meeting was held on March 30th, 2024 at Lotus Banquets in North Olmsted, OH. We covered essential AIPNO matters and also gained financial tools to help with estate planning and tax savings from our sponsors Wall Street Alliance group.



CME and Finance Lectures - July 20, 2024

A CME event was organized on July 20th, 2024 at Lotus Banquets in North Olmstead, OH. Our Secretary Prakash Chand, MD presented a talk on Hepatic encephalopathy – Clinical Pearls and Pitfalls. This was followed by a talk by Rachel Davis, MD on Emerging Treatment in Thyroid Eye Diseases discussing the new monoclonal antibody treatment. We ended the event a financial lecture by Equitable Advisors.





Donovan Donohoo, Jr., CPA, CVA
Managing Member

Roger D. Cupp, CPA
Director of Taxation

ACCOUNTANTS' COMPILATION REPORT

DCA
Certified Public Accountants
5903 Wolfpen Pleasant Hill Road
Milford, Ohio 45150

To the Board of Directors
Association of Indian Physicians of Northern Ohio
3702 Sutherland Road
Shaker Heights, Ohio 44122

Management is responsible for the accompanying financial statements of Association of Indian Physicians of Northern Ohio (a nonprofit organization), which comprise the statement of financial position as of December 31, 2023, and the related statement of activities for the years ended December 31, 2023 and 2022, in accordance with accounting principles generally accepted in the United States of America. We have performed a compilation engagement in accordance with Statements on Standards for Accounting and Review Services promulgated by the Accounting and Review Services Committee of the AICPA. We did not audit or review the financial statements nor were we required to perform any procedures to verify the accuracy or completeness of the information provided by management. Accordingly, we do not express an opinion, a conclusion, nor provide any form of assurance on these financial statements.

Management has elected to omit substantially all of the disclosures and the statement of cash flows required by accounting principles generally accepted in the United States of America. If the omitted disclosures and the statement of cash flows were included in the financial statements, they might influence the user's conclusions about the Organization's financial position and changes in net assets. Accordingly, the financial statements are not designed for those who are not informed about such matters.

We are not independent with respect to Association of Indian Physicians of Northern Ohio.

DCA CPAs LLC

Milford, Ohio
September 25, 2024

5903 Wolfpen Pleasant Hill Road • Milford, Ohio 45150 • (513) 576-6770
www.donohoo CPA.com

**ASSOCIATION OF INDIAN PHYSICIANS OF NORTHERN OHIO
STATEMENT OF FINANCIAL POSITION
AS OF DECEMBER 31, 2023**

ASSETS

Operating fund assets

112 Cash - Unrestricted	180,928.14	
118 Accounts Receivable	792.90	
120 Due from endowment	5,280.70	
Total Operating fund assets		187,001.74

Board designated assets

147 Cash & equivalents	242,531.11	
Total Board designated assets		242,531.11

Temporarily restricted assets

153 Cash & equivalents	198,355.05	
155 Due to/from operations	84,028.61	
Total Temporarily restricted assets		282,383.66

Permanently restricted assets

164 Investments	1,431,973.79	
165 Due to/from Operations	(5,280.70)	
Total Permanently restricted assets		1,426,693.09

TOTAL ASSETS **2,138,609.60**

LIABILITIES AND NET ASSETS

Liabilities

205 Accounts payable	9,500.00	
209 Due to temp restricted	84,028.61	
Total liabilities		93,528.61

Net assets

370 Unrestricted	93,473.14	
371 Board designated	242,531.11	
372 Temporarily restricted	282,383.65	
373 Permanently restricted	1,426,693.09	
Total net assets		2,045,080.99

TOTAL LIABILITIES AND NET ASSETS **2,138,609.60**

See accountants' compilation report

ASSOCIATION OF INDIAN PHYSICIANS OF NORTHERN OHIO
STATEMENT OF ACTIVITIES
FOR THE YEARS ENDED DECEMBER 31,

	2023	2022
	CONSOLIDATED	
Revenue, gains & other support		
405 Membership dues	1,600.00	1,500.00
406 Contributions	1,625.00	11,039.00
407 Continuing education	3,000.00	5,000.00
414 Medical yatra contributions	134,436.00	19,540.00
415 Special events	8,903.13	4,017.00
416 Annual dinner	107,875.00	111,275.00
495 Investment income	227,635.48	(253,916.84)
Total revenue, gains & other support	485,074.61	(101,545.84)
Expenses		
501 Wages	24,000.00	26,276.70
507 Continuing education costs	-	3,432.00
514 Medical yatra expenses	7,870.94	9,949.34
515 Special events	15,826.02	9,437.62
516 Annual dinner	65,044.79	67,358.99
524 Auto expense	316.25	351.14
527 Accounting expenses	11,612.30	10,516.62
528 Office expenses	7,802.36	2,555.57
529 Bank charges	12,010.42	10,651.69
536 Dues & subscriptions	1,200.00	-
542 Scholarships & donations	84,789.54	29,139.65
550 Telephone	591.74	542.62
551 Insurance	-	750.00
554 Postage & shipping	30.65	37.24
570 Taxes	2,360.54	2,551.57
Total Expenses	233,455.55	173,550.75
Change in net assets	251,619.06	(275,096.59)
597 Beginning net assets	1,793,461.93	2,068,558.52
Ending net assets	2,045,080.99	1,793,461.93

See accountants' compilation report

ASSOCIATION OF INDIAN PHYSICIANS OF NORTHERN OHIO
STATEMENT OF ACTIVITIES
FOR THE YEARS ENDED DECEMBER 31,

	2023	2022
1 - Operating		
Revenue, gains & other support		
405 Membership dues		150.00
406 Contributions		5,388.00
407 Continuing education	3,000.00	5,000.00
414 Medical yatra contributions		
415 Special events	8,903.13	4,017.00
416 Annual dinner	107,875.00	111,275.00
493 Satisfaction of restriction	39,900.47	34,873.76
495 Investment income	0.70	0.70
Total revenue, gains & other support	159,679.30	160,704.46
Expenses		
501 Wages	24,000.00	26,276.70
507 Continuing education costs		3,432.00
514 Medical yatra expenses		
515 Special events	15,826.02	9,437.62
516 Annual dinner	65,044.79	67,358.99
524 Auto expense	316.25	351.14
527 Accounting expenses	11,612.30	10,516.62
528 Office expenses	7,802.36	2,555.57
529 Bank charges	1,154.68	816.92
536 Dues & subscriptions	1,200.00	
542 Scholarships & donations	24,908.54	9,889.65
550 Telephone	591.74	542.62
551 Insurance		750.00
554 Postage & shipping	30.65	37.24
570 Taxes - Uncoded	2,360.54	2,551.57
Total Expenses	154,847.87	134,516.64
Change in net assets	4,831.43	26,187.82
597 Beginning net assets	88,641.71	62,453.89
Ending net assets	93,473.14	88,641.71

See accountants' compilation report

ASSOCIATION OF INDIAN PHYSICIANS OF NORTHERN OHIO
STATEMENT OF ACTIVITIES
FOR THE YEARS ENDED DECEMBER 31,

	2023	2022
2 - Life Membership		
Revenue, gains & other support		
405 Membership dues	1,600.00	1,350.00
493 Satisfaction of restriction	(12,347.00)	(11,738.00)
495 Investment income	33,352.02	(38,947.86)
Total revenue, gains & other support	22,605.02	(49,335.86)
Expenses		
529 Bank charges	3,742.74	3,554.77
Total Expenses	3,742.74	3,554.77
Change in net assets	18,862.28	(52,890.63)
597 Beginning net assets	223,668.83	276,559.46
Ending net assets	242,531.11	223,668.83

See accountants' compilation report

ASSOCIATION OF INDIAN PHYSICIANS OF NORTHERN OHIO
STATEMENT OF ACTIVITIES
FOR THE YEARS ENDED DECEMBER 31,

	2023	2022
3 - Endowment		
Revenue, gains & other support		
493 Satisfaction of restriction	(27,553.47)	(23,135.76)
495 Investment income	194,281.62	(214,970.95)
Total revenue, gains & other support	166,728.15	(238,106.71)
Gross Profit	166,728.15	(238,106.71)
 Expenses		
529 Bank charges	6,719.00	6,280.00
542 Scholarships & donations		1,000.00
Total Expenses	6,719.00	7,280.00
 Change in net assets	 160,009.15	 (245,386.71)
597 Beginning net assets	1,266,683.94	1,512,070.65
 Ending net assets	1,426,693.09	1,266,683.94

See accountants' compilation report

**ASSOCIATION OF INDIAN PHYSICIANS OF NORTHERN OHIO
STATEMENT OF ACTIVITIES
FOR THE YEARS ENDED DECEMBER 31,**

	<u>2023</u>	<u>2022</u>
4 - Medical Yatra		
Revenue, gains & other support		
414 Medical yatra contributions	134,436.00	19,540.00
Total revenue, gains & other support	<u>134,436.00</u>	<u>19,540.00</u>
Gross Profit	<u>134,436.00</u>	<u>19,540.00</u>
Expenses		
514 Medical yatra expenses	7,870.94	9,949.34
529 Bank charges	394.00	
542 Scholarships & donations	54,256.00	12,000.00
Total Expenses	<u>62,520.94</u>	<u>21,949.34</u>
Change in net assets	71,915.06	(2,409.34)
597 Beginning net assets	117,945.03	120,354.37
Ending net assets	<u><u>189,860.09</u></u>	<u><u>117,945.03</u></u>

See accountants' compilation report

ASSOCIATION OF INDIAN PHYSICIANS OF NORTHERN OHIO
STATEMENT OF ACTIVITIES
FOR THE YEARS ENDED DECEMBER 31,

	2023	2022
5 - Research Showcase		
Revenue, gains & other support		
495 Investment income	1.14	1.27
Total revenue, gains & other support	1.14	1.27
Gross Profit	1.14	1.27
 Expenses		
542 Scholarships & donations	4,000.00	6,250.00
Total Expenses	4,000.00	6,250.00
 Change in net assets	(3,998.86)	(6,248.73)
597 Beginning net assets	90,871.42	97,120.15
 Ending net assets	86,872.56	90,871.42

See accountants' compilation report

**ASSOCIATION OF INDIAN PHYSICIANS OF NORTHERN OHIO
STATEMENT OF ACTIVITIES**

FOR THE YEARS ENDED DECEMBER 31,

	2023	2022
	6 - Other Temporarily Restricted	
Revenue, gains & other support		
406 Contributions	1,625.00	5,651.00
Total revenue, gains & other support	1,625.00	5,651.00
Gross Profit	1,625.00	5,651.00
 Expenses		
542 Scholarships & donations	1,625.00	
Total Expenses	1,625.00	-
 Change in net assets	-	5,651.00
597 Beginning net assets	5,651.00	-
 Ending net assets	5,651.00	5,651.00

See accountants' compilation report

AIPNO Research Showcase Chair Report

The first Research Showcase of AIPNO was launched in 2013 by Beejadi Mukunda, MD, who was the President of the Association for 2013. This was done to further the purposes of AIPNO which includes “To conduct educational programs to acquaint the members with clinical, scientific and other developments in the field of medicine.” This innovative idea led to increased participation from the youth and brought in many new members and supporters to the Association.



Beejadi Mukunda, MD
Research Showcase Chair

Ajay Lodha, MD, the then President of the National Association of American Physicians of Indian Origin requested Dr. Mukunda to expand the Research Showcase to the international stage and appointed him as the Co-Chair of of AAPI’s Scientific & Research Committee in 2016. The global research showcase drew participants from all over the world including India, the USA, Europe, and Australia.

In 2018, Dr. Mukunda was selected to the Scientific Advisory Committee for the 12th Global Health Care Summit held in Mumbai, India. Dr. Mukunda chaired the Research Showcase committee of AAPI and conducted a very successful Global Research Showcase in Mumbai, India, in 2018. Additional categories of (a.) Technology Innovations in Medicine including EMR, Devices etc. and (b.) Complimentary and Integrative Medicine (AYUSH) was included under the Presidency of Naresh Parikh, MD.

AIPNO’s Research Showcase has so far over 850 original research abstracts and awarded cash prizes of over \$30,000 to the winners of the competition.

A new initiative, “AIPNO Global” launched by Dr. Mukunda in 2021 is now focusing on Research, Philanthropy, and healthcare on a global stage.

Dr. Rupesh Raina joined as the Co-chair of the Research Showcase and has been instrumental in expanding the invitation to the medical students and fellows all over Ohio. The 9th Research Showcase in 2023 was a grand success under the leadership of Dr. Aasef Shaikh and the executive committee. Electronic format was continued under the leadership of Dr. Raina and expert assistance by Ronith Chakraborty, MD. E-posters were presented by researchers ranging from high school students to university professors, abstracts were printed in the program booklet and cash prizes were awarded.

Many thanks to the judges, Executive Committee, and Rupesh Raina, MD, BOT Chair, for their support. Special thanks to Ronith Chakraborty, MD, and Amrita Mukunda, for their enthusiastic support of all aspects of the Research Showcase and for helping make the judging fair, transparent, and unbiased which is not an easy task!! Establishing research grants in the future, bringing more researchers into this great organization, helping younger physicians, healthcare workers and administrators to network and mentor new members are the goals of this committee with a view to further broadening the purposes of AIPNO.

We would like to thank all the officers and members of AIPNO for supporting us to continue the Research Showcase especially Dr. Vikram Kumar, Dr. Namrata Kumar and the Executive Committee members who have put in tremendous efforts to make the Research Showcase successful. We are grateful to all the healthcare systems for supporting this effort and especially to Mr. Gary Robinson, CEO of CDC for his generous support in being the Presenting Sponsor of Research Showcase this year. Heartfelt thanks to Ms. Pam Pawelecki, Executive Assistant for her tireless service. Many thanks to our families for their unconditional support and allowing us to work for AIPNO.



Rupesh Raina, MD
Research Showcase Co-Chair



Aasef Shaikh, MD PhD
Research Showcase Co-Chair



ABSTRACT and POSTER RESEARCH

pages 54 - 77

Abs ID: 1

Abstract Title: Accessibility, Feasibility, and Perceived Benefit of Group Acupuncture Service for Oncological Patients in an NCI-Designated Comprehensive Center

Abstract Topic: Quality Project

Presenting Author: Meha Srivastava

Affiliation: Researcher

Email/ Mob: mxs2068@case.edu / 8045164685

Abstract Content:

Introduction: American Society of Clinical Oncology (ASCO) guidelines support the use of acupuncture for oncology patients alongside their standard care, as it can help manage treatment-related gastrointestinal side effects, hot flashes, fatigue, anxiety, depression, and insomnia. Although the demand for acupuncture continues to rise, there is limited availability for these services to meet the needs of all cancer patients wishing to receive long-term, cumulative sessions. The goal of this prospective data collection initiative was to determine the accessibility, feasibility, and perceived benefit of a group acupuncture clinic at a NCI-designated cancer institute.

Methods: Oncology patients were referred by their respective care teams to the Winship Integrative Oncology and Survivorship Program (WISE) for acupuncture. Participants completed quality of life validated surveys pre-treatment and at follow-up visits, including Promis-29 and Measure Your Concerns and Well-being (MyCaW). Program-specific intake measured perceived improvement of symptoms and duration of benefits at each follow-up. Data was entered in real time, periodically analyzed for statistical significance, and used for quality improvement.

Results: 391 unique patients were seen in 14 months, representing 2382 patient appointments in total. Most common self-reported symptoms targeted by acupuncture included musculoskeletal pain (n=251), fatigue (n=125), and neuropathy (n=101). Promis-29 surveys reflected a statistically significant decrease in anxiety, depression, and fatigue, and a statistically significant increase in social participation across patients completing at least 8 visits. 87% of patients self-reported improved areas of concern (n= 370) from at least visit 4 onward. Providers reported perceived benefit due to acupuncture based on qualitative patient feedback and their observations.

Discussion: The addition of complementary acupuncture services provides participants with positive outcomes. The group acupuncture model may improve continuity of oncological care in a time and cost-effective way and improve patient adherence. Future directions include expansion of services to support high referral volumes and improved clinic workflow.

Abs ID: 2

Abstract Title: Adverse Neurologic Events of Immune Checkpoint Inhibitor Monotherapy vs. Combination Therapy for Melanoma

Abstract Topic: Clinical Research

Presenting Author: Nikita Das

Affiliation: CWRU School of Medicine

Email/ Mob: nxd277@case.edu / 5019404933

Abstract Content:

Introduction: In the past decade, FDA approval of several novel immune checkpoint inhibitors has revolutionized treatment of melanoma. However, severe immune-related adverse events (irAEs) have been reported as unintended side effects of these medications. In 2021, consensus disease definitions for adverse neurologic irAEs of ICIs were released. To date, there is a scarcity of literature reporting the incidence of neurologic irAEs, as defined by the Neuro irAE Disease Definition Panel, in melanoma patients. This study examines, at a population level, whether use of PD-1/CTLA-4 inhibitor combination immunotherapy is associated with increased incidence of neurologic irAEs in melanoma patients compared to PD-1 inhibitor monotherapy.

Methods: A retrospective, multicenter cohort study performed using the TriNetX research platform identified adult patients diagnosed with melanoma. Cohort 1 (n=9,723) included patients treated with PD-1 inhibitor monotherapy (pembrolizumab or nivolumab). Cohort 2 (n=5,083) included patients treated with PD-1/CTLA-4 inhibitor combination therapy (nivolumab + ipilimumab). Propensity Score Matching generated final cohorts (n=4,996) using covariates: gender, race, age at diagnosis, TNM staging, and history of nervous system disease. Odds ratios (OR) and Kaplan Meier survival analyses were calculated for incidence of each neurologic irAE subtype at 3- and 5- years following therapy initiation.

Results: At 3 years post-diagnosis, there was increased risk of immune-related meningitis [OR: 3.1, 95% CI: (2.0, 4.8)], encephalitis [OR: 2.8, 95% CI: (1.7, 4.5)], demyelinating syndromes [OR: 2.0, 95% CI: (1.1, 3.6)], vasculitis [OR: 1.3, 95% CI: (0.6, 2.8)], peripheral neuropathy [OR: 1.3, 95% CI (1.1, 1.5)], neuromuscular junction disorders [OR: 1.2, 95% CI: (0.8, 1.9)], and myopathy [OR: 1.4, 95% CI: (1.1, 2.0)] in patients receiving combination immunotherapy compared to those receiving monotherapy. Increased incidence of neurologic irAEs corresponded with decreases in survival probability (Log-Rank Test P<0.01), except for patients who experienced vasculitis (P=0.4) and neuromuscular junction irAEs (P=0.2). At 5 years following therapy initiation, these trends for risk of neurologic irAEs persisted.

Discussion: While the association between ICI treatment and neurologic irAEs has been convincingly established, existing reports on this topic have largely relied on published data from clinical trials, whose generalizability may be limited by stringent inclusion and exclusion criteria. Our present study juxtaposes existing explorations by highlighting prospectively collected patient experiences, thereby providing a more complete, disease-specific clinical picture of the immuno-oncological phenomenon at hand. Melanoma patients receiving PD-1/CTLA-4 inhibitor combination therapies are at greater risk of neurologic irAEs than patients on PD-1 monotherapy regimens. Careful patient-centered discussions are needed by expert clinicians to provide the best risk stratified management for patients. These findings underscore the need for future studies on predictive biomarkers of irAEs in order to optimize efficacy of immunotherapy treatment of advanced melanoma.

ABSTRACT and POSTER RESEARCH

Abs ID: 3

Abstract Title: Adjuvant Chemo-Radiation Therapy as a Risk Factor for Postoperative Hydrocephalus Following High-Grade Glioma Resection: A Propensity Matched Case-Control Study

Abstract Topic: Clinical Research

Presenting Author: Nikita Das

Affiliation: CWRU School of Medicine

Email/ Mob: nxd277@case.edu / 5019404933

Abstract Content:

Introduction: Since 2005, the Stupp protocol has become standard of care for high-grade glioma (HGG). In the past decade, discovery of the glymphatic network has given rise to consideration that chemoradiation-induced inflammatory changes may contribute to the pathogenesis of postoperative hydrocephalus, a well-documented sequela of resective neurosurgery. This study investigates how adjuvant chemoradiation therapy impacts risk for developing hydrocephalus following HGG resection.

Methods: A retrospective chart review identified 257 adults with HGG undergoing tumor resection at our institution between 2010-2020. Demographic and clinical data were collected, including surgical and adjuvant therapy history. Propensity Score Matching (PSM) generated comparative cohorts using covariates sex, age at first surgery, surgery type, tumor location, extent of first resection, tumor-associated seizures, ventricular opening, number of additional resective surgeries, and pre-surgical Karnofsky Performance Scale score. Odds Ratios (OR) with 95% Confidence Intervals (C.I.) and paired t-tests were employed to assess differences in adjunctive chemoradiation trends between patients who developed hydrocephalus within 3 years postoperatively and those who did not.

Results: 27 of 257 patients (10.5%) who underwent HGG resection developed hydrocephalus, with a median time to onset as 5.7 months [IQR: 1.9-14.8]. PSM achieved a symmetric distribution amongst cases and controls (standardized mean difference <0.15), generating final cohorts (n=27) for comparison. Patients who developed hydrocephalus were more likely to have completed the Stupp protocol (OR: 3.5, 95% C.I. [1.03, 12.07]) and undertaken multiple cycles of the Stupp protocol (P<0.002). Additionally, these patients had a shorter time interval between surgery and adjuvant chemoradiotherapy initiation than controls (P<0.01). Participation in other clinical trials with chemotherapy (OR: 1.0, 95% C.I. [0.2, 5.5]) or radiation (OR: 4.5, 95% C.I. [0.47, 43.4]) did not differ significantly between groups.

Discussion: Despite substantial advancements in understanding the pathophysiology of high-grade gliomas in the past decade, standard of care has not fully evolved to reflect these developments. While the introduction of combined radiation therapy and temozolomide following the landmark 2005 Stupp clinical trial has markedly enhanced survival rates for high-grade glioma patients, postoperative hydrocephalus remains a persistent challenge. This study highlights the significant incidence of postoperative hydrocephalus and its potential association with the intensity and timing of adjuvant therapy. Shortened time to initiation of chemoradiation therapy postoperatively and increased number of chemoradiation cycles may increase patients' susceptibility for postoperative hydrocephalus following HGG resection. These findings underscore the need for a more nuanced approach to treatment that balances efficacy with quality-of-life considerations. Future research, including the development of a comprehensive, multi-center outcomes database, is crucial for refining treatment strategies and addressing both survival and complication management effectively.

Abs ID: 4

Abstract Title: Comparative Dietary Assessment of Patients with Crohn's Disease and the General Population

Abstract Topic: Clinical Research

Presenting Author: Brian Devorkin

Affiliation: CWRU School of medicine

Email/ Mob: bxd290@case.edu / 2625738424

Abstract Content:

Introduction: Crohn's disease (CD) is a chronic inflammatory condition of the gastrointestinal tract. Despite the known impact of diet on disease severity, many CD patients continue consuming potentially pro-inflammatory foods. This study aimed to assess the dietary habits of CD patients and their implications for disease management.

Methods: A prospective, questionnaire-based study was conducted among 52 adult participants (29 CD, 23 healthy controls; HC) recruited from the Digestive Disease Institute at University Hospitals Cleveland Medical Center. Dietary intake data was collected using the Diet History Questionnaire III, developed by the National Cancer Institute.

Results: Differences in diet intake behaviors were identified between the CD and HC control participants. Specifically, CD participants reported consuming more added sugars (69.21 ± 103.55 g vs 44.14 ± 26.42, 56.79%, p = .22), fructose (30.73 ± 39.91 g, 16.87 ± 10.59 g, 82.19%, p = 0.08), and sorbitol (0.56 ± 0.81 g, 0.30 ± 0.33 g, 83.85%, 0.13) compared to HC. Additionally, CD patients had higher intakes of omega-3 fatty acids (1.43 ± 1.35 g, 1.13 ± 0.7 g, 25.84%, p= 0.32), fruits (1.70 ± 1.98 cups, 1.14 ± 0.89 cups, 49.82%, 0.18), and vegetables (1.37 ± 0.85 cups, 1.06 ± 0.59 cups, 28.84%, p= 0.13), while consuming less aspartame (19.97 ± 33.69 mg, 44.92 ± 62.72 mg, -55.540%, p = 0.09).

Discussion: Compared to HC, CD patients reported a higher consumption of sugars and sugar alcohols, which can worsen gut dysbiosis and inflammation. The suboptimal total consumption of fruits and vegetables between the groups is further evidence of a poor diet. The findings underscore the necessity for targeted dietary interventions and professional dietary guidance for CD patients.

Abs ID: 5

Abstract Title: Targeting Glia to Prevent the Degeneration of Neurons to Preserve Sight

Abstract Topic: Basic Science

Presenting Author: Nikhita Kumar

Affiliation: self

Email/ Mob: nikhitakumar100@gmail.com / 4407147279

Abstract Content:

Introduction: Glaucoma is a leading cause of blindness and is characterized by death of retinal ganglion cells (RGCs). Strategies are needed to protect RGCs to combat blindness. Müller glia (MG) are the support cell of the retina and are a prime target to protect RGCs. However, in pathological conditions, MG undergo an inflammatory shift that contributes to neurodegeneration. Stat1 is an inflammatory factor induced in MG in response to neurodegeneration. This work tests whether Stat1 influences neuroprotection of RGCs.

Methods: RGC-death was induced by intraocular injections of NMDA which causes excitotoxicity. Stat1 was deleted in MG using a mouse that contains the floxed Stat1 gene while expressing cre-recombinase in Glia (Rlbp1-Cre). After Stat1 deletion and NMDA injections, eyes were harvested and RGC survival was assessed. Three images were taken and quantified per eye and statistical differences were determined by one-way ANOVA and Tukey's multiple comparisons test.

Results: We show that NMDA induces the death of RGCs and causes neuroinflammation. We also demonstrate our mouse model can delete Stat1 in MG. We quantified the presence of RGCs after PBS control injections versus NMDA injury with and without Stat1 deletion. Our results show a significant loss of RGCs in NMDA treatment, but no significant differences between Stat1 deletion and not ($p=0.057$).

Discussion: Glia are a target for neuroprotective therapies. Here we tested whether deleting an inflammatory factor in glia could prevent RGC-death. We found Stat1 deletion might influence survival of RGCs, but further replication is needed. This work seeks to develop strategies to protect neurons.

Abs ID: 6

Abstract Title: Kidney Segmentation on Ultrasound Images via Open-Source Trained Machine Learning Networks

Abstract Topic: Clinical Research

Presenting Author: Saumya Mahajan

Affiliation: High School Student

Email/ Mob: saum.m1121@gmail.com / 3303381920

Abstract Content:

Introduction: Ultrasound imaging uses high-frequency sound waves to visualize internal structures without employing ionizing radiation, strong magnetic fields, or invasive measures used in CT scans and MRIs. Ultrasounds can be conducted repeatedly without risk of radiation poisoning, making it the ideal option for visualizing the kidney. A kidney ultrasound can assess the size, location, and shape of the kidneys and related structures which allows for the detection of potential cysts, tumors, abscesses, obstructions, fluid collection, and infection. Artificial Intelligence (AI) has demonstrated a unique ability to identify anatomical regions in medical imaging, including ultrasound. Unfortunately, this advancement is stunted by the lack of open ultrasound datasets with expert annotations available for researchers. This requires careful curation and quality evaluation of available datasets to account for format and structural differences, toward advanced development and testing of AI models. Our goal was to resolve this issue by organizing and preparing a database of annotated kidney ultrasounds that can be used to develop machine learning-based segmentation models.

Methods: 514 two-dimensional (2D) B-mode ultrasound images were obtained between January 2015 and September 2019 by researchers at the University of British Columbia in Vancouver. The participant population includes adults with chronic kidney disease, prospective kidney donors, and adults with a transplanted kidney. A variety of ultrasound machines from various manufacturers, including ACUSON, SIEMENS, GE Healthcare, etc. conducted original scanning. Image annotation and review were performed using the VGG Image Annotator tool to demarcate the cortex, capsule, medulla, and central echo complex. Using Virtual Studio Code, Python scripts were developed to organize annotations and convert them into binary masks that are usable for training machine learning segmentation models.

Results: Ultrasound annotations were successfully converted into organized and usable binary masks. The masks were overlaid onto their respective ultrasound images, highlighting the significant regions of the ultrasound. These overlays were verified by imaging researchers to ensure the accuracy of the conversion from annotation to binary mask.

Discussion: The binary masks show that there is no significant difference in the efficacy of different brands of ultrasound machines. Future work will include training artificial intelligence models to analyze kidney ultrasounds based on the curated annotation database.



ABSTRACT and POSTER RESEARCH

Abs ID: 7

Abstract Title: Outcomes of Newly Diagnosed Acute Myeloid Leukemia Patients Between 65-75 Years and Treated with Intensive Induction Chemotherapy versus Hypomethylating Agents and Venetoclax: A Propensity Score Adjusted Cohort Study

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: The use of intensive induction chemotherapy (Ind-CTX) is the standard of care for treatment in fit patients diagnosed with acute myeloid leukemia (AML). However, it is associated with significant toxicity in elderly and unfit patients. In 2018, venetoclax in combination with hypomethylating agents (VEN+HMA) was approved for the treatment of AML in unfit patients or patients ≥ 75 years. Since then, there has been a trend to use VEN+HMA in older patients but less than 75 years old. It is unknown if HMA+VEN is superior to Ind-CTX in patients between ages 65-75 years old.

Methods: We conducted a retrospective cohort study to compare outcomes in AML patients aged 65-75 treated with VEN+HMA or 7+3 \pm midostaurin/gemtuzumab ozogamicin, excluding acute promyelocytic leukemia. Key outcomes included overall survival (OS), event-free survival (EFS), and clinical response rates. Data collected encompassed demographics, AML subtypes, cytogenetics, BCR::ABL1 and FLT3 status, mutational profiles, and treatment history. Responses were categorized as composite complete response (CCR) and minimal residual disease (MRD). EFS was defined from therapy start to refractoriness, progression, or death; OS was from therapy initiation to death. Survival probabilities were estimated using Kaplan-Meier, with differences assessed by the log-rank test. Multivariable regression and propensity score analysis adjusted for confounders.

Results: From May 2017 to September 2023, 730 AML patients were treated at Cleveland Clinic Foundation: 92 with Ind-CTX and 61 with VEN+HMA. Of the Ind-CTX patients, 49 (53%) received 7+3 (daunorubicin), while 58 (95%) of the VEN+HMA group received VEN+Azacitidine. Median ages were 69 years (IQR 66.8-72) for Ind-CTX and 70 years (IQR 67-74) for VEN+HMA ($P>0.05$). Cardiovascular diseases were noted in 15% of Ind-CTX patients and 28% of VEN+HMA patients ($P=0.06$). High-risk cytogenetics per ELN2022 were present in 26% of Ind-CTX and 42% of VEN+HMA patients ($P=0.03$). Other baseline characteristics, including ejection fraction, were similar between groups.

The CCR rate was 63% for Ind-CTX vs. 52% for VEN+HMA. Multivariable logistic regression showed no significant difference in CCR rates between Ind-CTX (reference) and VEN+HMA (OR: 0.62, 95%CI: 0.27-1.46, $P=0.3$). Median follow-up for OS and EFS was 34 months (range: 1.5 - 66.1), with 113 deaths and 120 progression or deaths, respectively. The PS-weighted median OS was 16 months (95% CI: 12-25) for Ind-CTX and 13 months (95%CI: 5.7-NC) for VEN+HMA. The PS-weighted Cox proportional hazards model showed no significant differences in OS (HR = 1.15, 95% CI: 0.68-1.96, $P = 0.6$) or EFS (HR = 0.78, 95% CI: 0.46-1.32, $P = 0.4$) between Ind-CTX and VEN+HMA

Discussion: In this propensity score-adjusted study, we found no significant differences in response rate, OS, or EFS for Ind-CTX compared to VEN+HMA in the treatments for AML patients aged 65-75. Multi-institutional collaboration and randomized clinical trials are needed to provide a more definite answer on the optimal regimen for AML patients less than 75 years old.

Abs ID: 8

Abstract Title: Impact of PAP Adherence in Hospitalized Patients Diagnosed with OSA and its Impact on Healthcare Utilization in Rural Settings

Abstract Topic: Clinical Research

Presenting Author: Priyanka Srinivasan

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Abstract Content:

Introduction: Obstructive sleep apnea (OSA) is a highly prevalent, yet under-diagnosed condition. Due to its adverse impact on risk for cardiopulmonary disorders, there is interest in pro-active screening of OSA in hospitalized patients. However, the effects of PAP therapy to treat OSA have not been studied in hospitalized patients from a rural population. The purpose of this study is to examine the 1-year composite endpoint of readmissions and ED visits, and associated healthcare costs of hospitalized patients who were initiated on positive airway pressure (PAP) therapy.

Methods: Hospitalized patients who screened positive for OSA through a formalized hospital sleep medicine program and were confirmed with post-discharge polysomnography (PSG) were dichotomized by PAP adherence and followed for a period of 12 months to evaluate for the composite endpoint of hospital readmissions and emergency room (ED) visits for cardiopulmonary reasons. Cost analysis between the two groups was also conducted.

Results: 2042 hospitalized patients were assessed for OSA from August 2019 to June 2023. 786 patients were determined as high risk based on portable sleep tests. 341 patients completed an outpatient PSG, of which 293 patients were diagnosed with OSA and prescribed PAP therapy. Of these 293 patients, 108 were adherent to therapy and 185 were non-adherent. The overall characteristics of the groups included a mean (SD) age: 58 years (12.82), mean BMI (kg/m²): 39.72 (10.71), male sex: 57%, and apnea-hypopnea index (AHI): 25.49 (26). 78%, 41% and 43% had hypertension, congestive heart failure, and diabetes mellitus, respectively. The composite endpoint of hospital readmissions and ED visits for cardiovascular and pulmonary reasons was significantly higher in the non-adherent group as compared to the adherent group (HR: 1.24, 95% CI: 1-1.54) ($p=0.03$). The cost of care for both hospital billing (HB) as well as professional billing (PB) was higher for the non-adherent group (\$1455.6 versus \$1723.5, $p = 0.004$ in HB cost and \$130.9 versus \$144.7, $p<0.001$ in PB). Length of stay was higher for non-adherent patients (2.7 ± 5.1 days versus 2.3 ± 5.9 days).

Discussion: Hospitalized patients diagnosed with OSA and adherent to therapy have reduced readmissions and ED visits for cardiopulmonary reasons 12 months after discharge. Adherent patients have reduced cost of health care and length of stay during hospitalizations. Thus, early detection of OSA in hospitalized patients and successful treatment may significantly lower healthcare utilization. These may have practical impact on quality of life and cost of healthcare delivery in rural hospitals.

ABSTRACT and POSTER RESEARCH

Abs ID: 9

Abstract Title: Factors Impacting Sleep Center No-Show Rates Post Hospital Discharge Utilizing Geospatial Coding in Appalachia

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Screening for early detection of sleep disordered breathing (SDB) in hospitalized patients has been shown to reduce hospital readmission rates. However, post-discharge polysomnography (PSG) for confirmation of diagnosis is required. The “show rate” of positively screened patients to post-discharge PSG remains low in rural and underserved areas. These low show rates could be due to significant health care disparities. This study examines the root causes of sub-optimal follow up in Appalachia using geospatial techniques.

Methods: Patients screened through a formalized hospital sleep medicine program from July 2019 and September 2023 were reviewed. The outcome was patients’ show rate (compliance) for PSG post-hospital discharge. Predictors included patient age, gender, BMI, health literacy, community distress score (DCI) and drive time from the patient’s residential zip code to the sleep center. Logistic regression was applied to estimate odds of compliance at the patient-level utilizing geospatial mapping technique. Geographically weighted logistic regression was applied to estimate the odds of a zip-code having compliant patients.

Results: Of the 1318 patients established as high risk for SDB, referred for polysomnography and who were able to be geocoded, 220 were compliant and 1098 were non-compliant. In non-spatial regression analyses, health literacy (aOR = 1.06, 95%CI = 1.03, 1.09), age (aOR=0.99, 95% CI=0.98, 0.99), and drive time (aOR=0.95, 95% CI = 0.92, 0.97) were statistically significant predictors of patient compliance. Spatial regression analyses identified locations with high and low predictive probability of patient compliance, and which community level factors were co-occurring in those areas.

Discussion: The findings suggest that both patient-level factors and the community where patients live may impact show rates. Health literacy was identified as a key modifiable predictor at the patient level. Among community factors, distance to sleep center influences compliance while DCI nor rurality do not. Efforts should focus on enhancing patient education at the individual level and understanding geographical factors to improve compliance.

Abs ID: 10

Abstract Title: Identifying HER2 and GD2 Expression in Osteosarcoma as an Immunotherapy Target

Abstract Topic: Basic Science

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Abstract Content:

Introduction: Osteosarcoma, a rare and aggressive bone cancer, is characterized by the production of osteoid, or immature bone by malignant cells, and primarily affects children and adolescents. Despite advances in neoadjuvant chemotherapy, there has been no significant improvement in effective treatment and prognosis for osteosarcoma due to its metastatic nature. Recently immunotherapy targeting specific antigens presents a promising strategy to improve therapeutic outcomes of many types of cancers. This study explores the expression of GD2, a disialoganglioside, and HER2, a protein receptor, in osteosarcoma cell lines and osteosarcoma patient derived cells and evaluates their potentials as immunotherapeutic targets.

Methods: We tested GD2 and HER2 expressions on osteosarcoma cells of various origins in vitro by immunofluorescence (IF) staining and found various levels of expression. We will use western blotting (HER2) and fluorescence-activated cell (FACS) sorting to confirm our IF results. Upon confirmation, we will perform an in vitro cell killing assay using co-culture system of osteosarcoma cells and T cells in the presence or absence of bispecific Abs engaging T cells to the target cells through their affinities for either HER2 or GD2 expressed on the target cells and for CD3 expressed on T cells. Cell killing events of osteosarcoma cell lines will be quantified by time-lapse live cell imaging with an IncuCyte.

Results: GD2 and HER2 were expressed at various levels in a majority of osteosarcoma cell lines. HER2 expression varies among osteosarcoma cell lines and patient derived cells. Additionally, some osteosarcoma cell lines expressed HER2 to similar levels as a breast cancer cell line expressing low, but sufficient, levels to be targeted by HER2 targeting CAR-T cells. GD2 expression was detected in many osteosarcoma cells with some expressing very high signals despite variances in GD2 expression among osteosarcoma cell lines.

Discussion: Initial results confirm varied expression of HER2 and GD2 among osteosarcoma cell lines, potentially demonstrating them as potential therapeutic targets. After confirming and quantifying HER2 and GD2 with western blot and FACS, we intend to perform an osteosarcoma killing assay by coculture with T cells in the presence or absence of bispecific Abs targeting either HER2 or GD2 and engaging T cells.

Abs ID: 11

Abstract Title: An Approach to Identify and Treat Prostate Cancer by Using a PSMA-1 Targeted PDT Based Chemotherapeutic Probe

Abstract Topic: Basic Science

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Abstract Content:

Introduction: Prostate cancer occurs due to the excessive proliferation of cells, and is the most common cancer in men in the United States. More effective treatment options are needed as many current treatments tend to result in residual cancer and a risk of cancer recurrence. A targeted treatment involving photodynamic therapy (PDT) and chemotherapy is an efficient approach to kill cancerous cells. Using the overexpressed prostate-specific membrane antigen (PSMA) as a biomarker, cancerous cells can be identified and treated with the newly developed fluorescent imaging probe PSMA-1-MMAE-PC413, which includes the chemotherapeutic agent MMAE and the fluorescent thermostatic agent PC413 that can be used for PDT.

Goals: The aim of this study is to determine the ability of the PSMA-1-MMAE-PC413 fluorescent imaging probe to bind to the PSMA, as well as visualize and simultaneously treat the prostate tumor model via PDT and MMAE.

Methods: For this study, two prostate cancer cell lines, PC3pip (PSMA+) and PC3flu cells (PSMA-), were cultured for in vitro and in vivo experiments. PSMA-1-MMAE-PC413, a PSMA targeted fluorescent imaging probe developed and synthesized by the Basilion Lab, was utilized to target and treat the prostate tumor model. The PSMA expression, was confirmed by Western blot method using different prostate cell lines. In addition, a cellular uptake study was completed to test the binding affinity of the targeted PSMA-1-MMAE-PC413 probe to PSMA in different cell lines. Further, in vivo studies were also conducted using subcutaneous tumor models in Athymic nude mice. For this study, 1x10⁶ PC3pip and PC3flu cells were cultured and injected subcutaneously into the flank and were later treated with the probe and PDT (PC3pip cells only) and imaged at 4 and 24 hours. All mice were then continually monitored for tumor regression.

Results: The western blot confirmed PSMA expression in PC3pip and RM1-PGLS cells and the lack of PSMA in PC3flu and RM1 cells. PC3-pip and RM1-PGLS, exhibited a high binding capacity to the probe compared to the PC3flu, RM1 and control groups. In the in vivo tumor model, the probe was specifically absorbed by PC3-pip cells, and there was no fluorescence observed in the PC3flu cell lines. After the PDT was performed, the fluorescence signal vanished in the PC3-pip cells due to PC413's photo bleaching effect. Further, tumor measurements taken in Group 1 control mice showed steady tumor growth while group two and three mice showed tumor regression.

Discussion: Based on the results, the probe can be very useful to detect prostate cancer cells and provide combined treatment effectively through PDT and chemotherapy (MMAE drug) to eradicate cancerous cells. This dual property of the probe could be useful in assisting surgeons as it will allow them to detect the tumor margins while also killing residual tumor cells through PDT treatment and subsequent chemotherapy.

Abs ID: 12

Abstract Title: Pathophysiology of CAKUT

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Congenital anomalies of the kidney and urinary tract (CAKUT) encompass a spectrum of abnormalities that originate in childhood, often with long-term effects that could become progressively apparent throughout adulthood. As CAKUT is a leading factor of kidney failure, it is crucial to extensively investigate the problems as well as associated factors involved in CAKUT. These groups of disorders affect the morphology and physiology of the kidneys in addition to the urinary system. This review incorporates a detailed comprehensive analysis of the pathophysiology of CAKUT through a molecular and genetic lens.

Genetic Mutations have an etiological role in the development of CAKUT. In this paper, we discuss mutations in particular genes such as: (PAX2, RET, FGFR1, HNF-1beta, and EYA1). We cover aspects of the phenotypes as well as the genotypes of these specific mutations throughout this review providing a genotype-phenotype association. If infants diagnosed with CAKUT have genetic mutations present then the road to kidney failure is much more severe than those without genetic mutations. Apart from the genetic aspect, this review shows the multifactorial nature of CAKUT by exploring environmental factors. It incorporates risks of medication exposure, maternal diabetes, as well as maternal smoking which have all been in turn associated with abnormal kidney development. Discussing the risk factors that would disturb the development of the kidneys throughout gestation we emphasize the necessity of early detection in decelerating the effects of CAKUT and discussing related genes that could prevent further complications. The treatment of CAKUT and appraising the value of MRI, antenatal ultrasound imaging, and other testing strategies are also viewed in this analytical review. We talk about the importance of genetic testing to help individualize clinical care by screening for further abnormalities.

Methods: A comprehensive literature search was conducted in PUBMED between June 2024 and September 2024. The literature provides the pathophysiology of the congenital anomalies of the kidney and urinary tract with a variety of aspects that could lead to kidney failure. Search terms that were embodied in this review were "CAKUT," "Genetic Mutations," "CKD," "Environmental factors," "PAX2," etc. Data removal from the articles was assessed under the PRISMA rules and focused on patient population and genetic mutations.

Results: The initial literature search included 201 studies, and a total of 15 studies reporting the outcome of interest were included. Study participants from the infant age to teenagers and the genetic mutations increased the probability of progression to CKD by nearly 45 percent.

Discussion: Patients have a substantially greater risk of progressing to severe kidney failure with the presence of genetic mutations. The presence of these mutations creates further problems with UTI and early detection is said to decrease the effects of renal malfunction allowing timely interventions and treatments causing slower progression of the anomaly. Mitigating CAKUT can be done maternally by avoiding certain medications and prenatal ultrasounds it could avert advancing damage.

Abs ID: 13

Abstract Title: Utilizing Semantic Segmentation and Machine Learning Algorithms to Identify Pulmonary Nodules within CT Scans

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Radiologists and Pulmonologists identify radiographic findings of pulmonary nodules within daily clinical practice. The identification and classification of these nodules is critical, as malignant ones can be early representations of lung cancer. The term “nodule” is increasingly vague within the medicinal community, as it could denote anything from infections to congenital abnormalities. The nodules used in this study are all cancerous. With the rising popularity of Artificial Intelligence, and Machine Learning algorithms, there has been a general push towards applying algorithms into clinical settings, especially in diagnostics and medicine.

Methods: Within this proof-of-concept experiment, a variation of the U-net model is used to identify pulmonary nodules within CT scans of the lung through semantic segmentation. 400 images from the Lung Image Database Consortium Image Collection (LIDC-IDRI) were used to accumulate the dataset to train the U-net model in an unsupervised fashion.

Results: With batch sizes of 16, and a total amount of epochs at 300, multiple different pieces of data can be gathered from this neural network. There are seven distinct keys, of which three are of top priority: “accuracy”, “jaccard_coef”, and “val_jaccard_coef.” Accuracy refers to the amount of pixels generated as “right” or “wrong”, however, because this is semantic segmentation, there are more accurate methods to observe the total accuracy of this neural network. The Jaccard Coefficient depends on the division of sets A and B and the union of sets A and B. With Set A denoting the ground truth (the segmented images that I have created) in comparison to Set B, the predicted truth (the segmented image it has come up with). After training the network, its total accuracy is summed to 0.9733 (97.33%), its Jaccard Coefficient is summed to 0.9326 (93.26%), and the Mean IoU resulted in around 0.77374667.

Discussion: This model identifies lung nodules in a CT scan image, and performs with reasonable accuracy. Granted, given higher-quality products such as a graphics processing unit (GPU) with more VRAM, or a Tensor Processing Unit, I would be able to increase my batch size and verbose rate, hence, increasing the computational efficiency of my algorithm. In regards to the U-net model, the addition of more layers regarding the generation of segmented images would have also increased the accuracy and image-labeling quality.

V. EXPERIMENTAL LIMITATIONS

The main reason for these lower scores are due to the lack of computational power provided. Using an 8-gigabyte GPU and unoptimized parts, I was not able to render all of the data that this custom dataset held. This, in turn, led to a significant downsizing of the algorithm. With smaller datasets, and weaker parts, I was not able to receive results of higher quality. Moreover, perhaps the integration of YOLOv8 into the U-Net model and integrating other models to avoid patchification would increase the computational efficiency of the code and allow for better use of the training data.

Abs ID: 14

Abstract Title: Point of Care Approaches to Estimate Split Renal Function and Predict Functional Outcomes after Radical Nephrectomy

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Radical nephrectomy (RN) should be considered for renal tumors of increased oncologic potential based on tumor size, biopsy, and/or aggressive imaging findings on CT/MRI. However, the imminent risk for reduced postoperative new baseline GFR (NBGFR) relative to partial nephrectomy (PN) remains a concern. Thus, accurate predictions of NBGFR after RN can inform clinical management and patient counseling, particularly in challenging cases where RN/PN offer distinct merits. Recent studies show that preoperative GFR, split renal function (SRF), and renal functional compensation (RFC) in the contralateral kidney are fundamentally important to accurately predict NBGFR after RN. SRF has traditionally been obtained from nuclear renal scans (NRS); however, a previous study suggests that software-derived differential parenchymal volume analysis (PVA) may be more accurate. A simplified approach to estimate SRF based on linear length/width/height measurements (LWH) has also been proposed. In this study, we compare the accuracies of these three methods for determining SRF, and, by extension, predicting NBGFR after RN.

Methods: Two hundred and thirty-five patients with renal tumors who were managed with RN at the Cleveland Clinic from 2006-2021 were analyzed. Of note, these patients had available preoperative CT/MRI, NRS, and preoperative and postoperative GFR data. PVA was performed on CT/MRI using a semi-automated 3D-imaging software and LWH measurements using tools in the CT/MRI user interface. NBGFR was defined as the GFR 3-12 months after RN, and RFC was approximated at 25% based on prior studies (Predicted NBGFR=1.25×Global GFR(Pre-RN)×SRF(Contralateral)). Predictive accuracies were assessed by correlation coefficients (r) and mean-squared errors (MSE), with lower MSE values reflecting more accurate predictions of NBGFR, among other performance parameters. Performance parameters were compared across the three methods for deriving SRF using 1000 bootstrap resampling, with statistical significance set at p<0.05 from two-sided tests. All analyses were performed using the statistical software R.

Results: The r values for the LWH-, NRS-, and PVA Software-based approaches were 0.72, 0.71, and 0.86, respectively. MSE values were 120.41, 126.05, and 64.55, respectively. Differences between the predictive accuracies of the PVA-based and non-PVA-based approaches, based on r and MSE values, were statistically significant. The software-derived PVA approach also demonstrated improved performance in terms of bias, precision, accuracy, and ability to predict NBGFR above or below the clinically-relevant threshold of 45 ml/min/1.73m²; although statistical significance was not observed in each comparison.

Discussion: Software-derived PVA provides the most precise and accurate estimations of SRF, and thus predictions of NBGFR after RN, when compared to NRS and LWH methods. Of note, the LWH approach performed equally well as NRS in terms of predicting NBGFR after RN. Both the software-derived and LWH PVA-based approaches can be performed using routine preoperative imaging, precluding the need for NRS in most patients when evaluating functional outcomes. Furthermore, both PVA-based methods can provide accurate estimations of SRF within minutes, which highlights their strong potential for clinical implementation. Clinically, accurate predictions of NBGFR can inform disease management in challenging renal cancer cases where RN is a relevant consideration.

ABSTRACT and POSTER RESEARCH

Abs ID: 15

Abstract Title: Characterizing the Natural History of Fetal Growth Restriction, Diagnosed Before 22 Weeks Gestational Age, Up to Birth

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Fetal Growth Restriction (FGR) diagnosed early in the 2nd trimester of pregnancy brings unique risks that can affect a baby's health throughout pregnancy and birth. Despite the seriousness of this condition, the natural history of FGR - how it progresses from early diagnosis to birth - has never been thoroughly explored, which makes it difficult to provide clear guidance to patients diagnosed with FGR. To optimize prenatal care and management, it's crucial to understand the characteristics of mothers and fetuses in which early-diagnosed FGR improves, stays the same, or worsens.

Methods: We conducted a retrospective cohort study on 153 women with singleton pregnancies diagnosed with FGR, defined as estimated fetal weight (EFW) or abdominal circumference (AC) below the 10th percentile before 22 weeks of gestation. Patients were divided into three groups based on FGR progression until birth:

Group 1: EFW or AC > 10th percentile

Group 2: EFW or AC \geq 3rd and < 10th percentile

Group 3: EFW or AC < 3rd percentile

We compared gestational age at diagnosis and delivery, birth weight, maternal pathology, and perinatal demise among the three groups. Statistical analysis was performed using ANOVA and chi-square tests, with $p < 0.05/3$ indicating significance.

Results: There were no significant differences in the average gestational age at diagnosis across the three groups ($p = 0.993$). Gestational age at delivery was significantly different among the groups ($p < 0.0001$), with Group 1 having the highest mean (38.0 weeks) compared to Group 2 (34.3 weeks) and Group 3 (34.3 weeks). Birth weight percentiles also differed significantly ($p < 0.0001$), with Group 1 having the highest mean (31.6%), followed by Group 2 (12.9%) and Group 3 (8.9%). There was no significant difference in maternal pathology among the groups ($p = 0.6313$).

Discussion: Our findings indicate that early onset FGR cases that remain below the 10th percentile (Groups 2 and 3) face earlier delivery and lower birth weight percentiles compared to those that resolve (Group 1), but maternal pathology did not differ significantly. These findings can help tailor prenatal care and guide further research on managing early-diagnosed FGR to improve long-term outcomes. Next steps for research include extending the analysis of differences in the natural history of FGR into the childhood of these three groups in order to assess potential future health implications.

Abs ID: 16

Abstract Title: Effect of Age, Thrombotic Microangiopathy, and Acute Graft-Versus-Host Disease on Overall Survival after Hematopoietic Stem Cell Transplantation

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Allogeneic hematopoietic stem cell transplantation (allo-HSCT) associated thrombotic microangiopathy (TA-TMA) and acute Graft-Versus-Host-Disease Grades 2-4 (aGVHD) are recognized risk factors for mortality after allo-HSCT. In an observational study (Epperla et al, BJH. 2020), researchers found that not only did TA-TMA have a higher risk of mortality, but also aGVHD had a higher risk of TA-TMA relative to grade I or no acute GVHD. While age is a risk factor for TA-TMA and mortality post-HSCT, it has not been dichotomized with an optimal cutoff. Using the same data from Center for International Blood and Marrow Transplant Research (CIBMTR), we evaluated the association of HSCT recipient age, aGVHD, and TA-TMA status on overall survival (OS).

Methods: This retrospective secondary analysis of an existing CIBMTR dataset included all patients who underwent allo-HSCT between 2008-2016 with information on onset of aGVHD and TA-TMA. We first evaluated the impact of increasing age as a continuous variable in survival analysis using Cox multivariable model, with other associated time-independent risk factors (RF). Age cutoff values were determined by restricted cubic spline (RCS) analysis in the same model. OS in patients characterized by the optimal age cutoff was estimated using a Cox proportional hazard stratified regression model with onset of TA-TMA and aGVHD as time-dependent covariates, underlying disease as strata, and other time-independent risk factors. Interactions of aGVHD and TA-TMA by age were also evaluated.

Results: Age as a continuous covariate was a significant RF for mortality. An optimal cutoff at 40 years was estimated based on RCS analysis and patients were categorized into two age groups: <40 years (younger patients) and \geq 40 years (older patients). There was a significant association ($p < 0.001$) between TA-TMA and aGVHD incidence, controlling for the age groups. Interactions between aGVHD and TA-TMA with both age groups were significant for OS ($p = 0.003$ and 0.028). For younger patients, TA-TMA had a hazard ratio (HR) 3.83 (95% CI, 3.24, 4.55), and older patients had a HR 3.00 (95% CI 2.62, 3.45). Regarding aGVHD, younger patients had a HR of 1.39 (95% CI, 1.30, 1.50) and older patients had a HR 1.59 (95% CI 1.52, 1.67). Older patients with onset of aGVHD, before or after TA-TMA, were at higher adjusted risk for mortality (HR 1.56, 95% CI 1.45, 1.68) than younger patients. There were no significant differences in the adjusted risks for mortality between younger and older patients with onset of TA-TMA alone (in the absence of aGVHD).

Discussion: Acute GVHD grades 2-4 is associated independently with mortality and increased risk for developing TA-TMA, which is also a significant risk factor for mortality. While incidence of TA-TMA was similar, incidence acute GVHD and all-cause mortality in younger patients was significantly lower than in older patients. The adjusted HRs for mortality were higher in patients with the onset of TA-TMA in both age groups. Our analysis demonstrates that the association between aGVHD and TA-TMA, and dichotomizing age by an explicit optimal cut-off are important for evaluation of the combined effects of these post-HSCT complications.

ABSTRACT and POSTER RESEARCH

Abs ID: 17

Abstract Title: Investigation into Postpartum Healthcare Utilization amongst Preeclamptic and Non-preeclamptic Patients

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Healthcare utilization is a factor that can influence health outcomes for postpartum women, and research posits that factors, such as Medicaid use, can elevate the risk that women do not seek routine postpartum follow-up care. Since risk factors that predict pregnant women that are of particular risk of being lost to follow-up for postpartum care have not been extensively studied, we aim to conduct research to understand specific groups of pregnant women that are particularly at risk of being lost to follow-up and associated health conditions, such as hypertensive emergencies. Hypothesis: Patients that use Medicaid insurance may be less likely to seek postpartum follow-up care and at a higher risk of being diagnosed with hypertensive emergencies than those who use private payer insurance.

Methods: Methods: Therefore, we used TriNetX, a database that culminates electronic health record (EHR) data and conducted a retrospective cohort study that tests associations between key predictor variables and preeclampsia diagnosis. We queried a set of 63 healthcare organizations (HCOs), and the network queried was called the US Collaborative Network (with NLP). We defined the cohorts according to several query criteria and ran a report that allowed a comparative analysis of outcomes. Cohorts were made that included preeclamptic individuals covered by Medicaid, preeclamptic individuals who were covered by private payers, non-preeclamptic individuals covered by Medicaid, and non-preeclamptic individuals who were covered by private payers. Medicaid users were considered those who were coded as state Medicaid payers within three years of their pregnancy, and private payers were considered those who were coded as private payers within three years of their pregnancy. Our outcome variables included (1) having a postpartum follow-up visit and (2) diagnosis with hypertensive emergency.

Results: Our main result was that those who were on Medicaid and preeclamptic were more likely to be lost to follow-up and had higher risks of hypertensive emergencies than private payers. Preeclamptic patients that were insured by Medicaid had a 21.2% less chance of having a routine postpartum followup as those who were private payers (95% CI: -0.230, -0.193, $p > 0.001$). Preeclamptic patients that were insured by Medicaid had a 5.4% higher chance of having a hypertensive emergency as those who were private payers (95%: 0.035, 0.074, $p > 0.001$). Non-Preeclamptic patients that were insured by Medicaid had a 9.0% less chance of having a routine postpartum followup as those who were private payers (95% CI: -0.095, -0.084, $p > 0.001$). Non-Preeclamptic patients that were insured by Medicaid had a 1.2% less chance of having a hypertensive emergency as those who were private payers (95% CI: -0.011, -0.006, $p > 0.001$).

Discussion: Conclusion: Patients insured by Medicaid that developed preeclampsia may need further support during their care to prevent progression of cardiovascular conditions, particularly considering their increased risk due to preeclampsia and lack of follow-up care.

Abs ID: 18

Abstract Title: The Cardiovascular and Renal Outcomes of varying anticoagulants on CKD patients using the CRIC database

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Chronic kidney disease (CKD) and cardiovascular disease (CVD) often occur together, with nearly half of CKD patients facing cardiovascular complications. Anticoagulants are crucial for managing thromboembolic risks in CKD patients, but their cardiovascular safety remains unclear.

Methods: This study examines the effects of different anticoagulants on myocardial infarction (MI) and cardiovascular death in CKD patients using a retrospective cohort design. Data from the Chronic Renal Insufficiency Cohort (CRIC) were analyzed, focusing on patients prescribed Vitamin K antagonists, factor Xa inhibitors, direct thrombin inhibitors, and heparin.

Results: The results showed notable differences in cardiovascular outcomes based on the anticoagulant used. Factor Xa inhibitors were linked to the highest rates of MI (.2107 per participant-year) and cardiovascular death (.1833 per participant-year), suggesting elevated cardiovascular risks. Thrombin inhibitors had a high MI rate (.1600 per participant-year) but no cardiovascular deaths. Vitamin K antagonists had a moderate MI rate and a higher cardiovascular death rate (.1080). Heparin demonstrated the lowest MI rate (.0916 per participant-year) and cardiovascular death rate (.0339), indicating a potentially safer profile. However, the Kruskal-Wallis test showed no significant differences between groups. Additionally, risk factor stratification analysis is still being conducted for the cohort.

Discussion: This research highlights the importance of patient-specific anticoagulant treatments for CKD patients with concomitant CVD. Further research needs to be done to reduce the risk of cardiovascular events and death among this vulnerable group of patients. It is also important so physicians can identify the optimal anticoagulant, considering patients-specific risk factors to minimize cardiovascular events and mortality.

Abs ID: 19

Abstract Title: Burden of Disease and Risk Analysis of Stroke in Adult Intensive Care Unit Dialysis Patients

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Kidney failure requiring dialysis and its associated costs create substantial burdens on healthcare systems. This study leverages electronic healthcare data to analyze comorbid stroke incidence in ICU dialysis patients over time, characterize stroke epidemiology, and compare outcomes between ICU dialysis stroke patients and non-stroke ICU dialysis patients.

Methods: Using international classification of disease, tenth revision, and current procedural terminology code queries, adult (18-90 years) intensive care unit patients from March 2004 to March 2024 were categorized into three cohorts: (1) non-stroke patients (n=118,813), (2) stroke patients (n=5,703), and (3) ICU dialysis patients (n=128,564). These cohorts were filtered by exclusion factors (kidney transplant status and history of stroke). Cohorts 1 and 2 were used for the comparative outcomes analysis. The cohorts were not matched to better represent the true burden of stroke on the healthcare system. Cohort 2 was also used for the competing risks analysis, and Cohort 3 was used for the incidence and prevalence analysis.

Results: The identified comorbidities for stroke were diabetes (18.42% of patients), heart failure (17.01%), hypertension (13.62%), atrial fibrillation (12.07%), coronary artery disease (11.27%), peripheral artery disease (3.27%), sleep apnea (1.16%), arthritis (0.29%), and lupus (0.08%). Intensive care dialysis stroke patients had significant increases ($p<0.05$) in rates of mortality (+4.30%) and ventilation/intubation (+1.98%), while non-stroke patients had significant increases ($p<0.05$) in ED visitation (+7.95%) and rehospitalization (+4.42%). Intensive care readmission rates showed no significant difference ($p=0.07$). Women and older adults reported higher risks of stroke. The found lower rates of stroke in Hispanic and Latino patients, as well as Native Hawaiian or other Pacific Islander patients.

Discussion: Stroke has a significant, adverse impact on ICU dialysis patients. Preventative strategies targeting stroke comorbidities are crucial to enhancing patient well-being and mitigating stroke burden.

Abs ID: 20

Abstract Title: Depression and Acute Kidney Injury Outcomes in Adult Patients

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: The prevalence of depression has increased significantly across the globe, particularly among individuals with chronic injuries and diseases. This intensifies the strain on these patients and the overall health system, contributing to additional adverse health outcomes and a diminished quality of life. Our study utilizes patient data from an electronic health record (EHR) database to compare the outcomes of intensive care unit (ICU) patients with acute kidney injury (AKI) who develop depression within 6 months of their diagnosis versus those who do not develop depression at 6 months, 1 year, and 5 years and characterize trends in AKI epidemiology.

Methods: We employed queries based on the International Classification of Diseases (ICD), Tenth Revision, and Current Procedural Terminology (CPT) codes through the TrinetX EHR database. Adult patients aged 18 to 90 in the ICU with AKI from March 2004 to March 2024 were divided into three distinct cohorts: (1) depression patients (n=189,969), (2) non-depression patients (n=877,933), and (3) ICU AKI patients (n=1,025,310). Each cohort was filtered using exclusion factors (renal transplantation, personal history of depression, and family history of depression). The first 2 cohorts were propensity matched with diagnoses, medications, lab values, demographics, and severity of illness (use of vasopressors, dialysis procedures, ventilation, heart failure, and sepsis) to conduct a comparative analysis (n=186,825). The third cohort was used for an incidence and prevalence analysis.

Results: ICU AKI patients who did not develop depression saw significant increases ($p<0.05$) in mortality (+7.51%, +5.88%, 3.00%) and ICU readmission (+8.39%, +6.70%, +3.97%) across all time periods. Patients who did develop depression saw significant increases ($p<0.05$) in abnormal renal function (+0.27%, +2.94%, +3.24%) and the development of end stage renal disease (+0.42%, +0.66%, +0.83%) across all time intervals. There was no significant increase ($p>0.05$) in the development of chronic kidney disease (CKD) between the cohorts at 6 months. However, patients who did develop depression saw significant increases ($p<0.05$) in the development of CKD at 1 year and 5 years (+6.52%, +7.66%). Lastly, patients showed varying results for rehospitalization between the 2 cohorts with significantly increased ($p<0.05$) risks in non-depression patients at 6 months (+1.94%), yet significantly increased ($p<0.05$) risks for depression patients at 5 years (+1.04%). Women and older adults also reported higher risks of depression among ICU AKI patients. It was found that there was a lower incidence and prevalence of depression in Native Hawaiian/Other Pacific Islander and Asian populations, but higher incidence and prevalence of depression in American Indian and White populations.

Discussion: Depression significantly influences the short- and long-term outcomes of AKI patients, promoting the progression of renal disease and impacting patient recovery. However, our results are inconclusive regarding broader effects of depression on mortality and ICU readmission. Strategies to help promote mental health in AKI patients could enhance their overall well-being and improve their ability to manage symptoms, adhere to treatment plans, and maintain a higher quality of life.

Abs ID: 21

Abstract Title: Incidence of acute kidney injury and fluid overload in infants undergoing cardiac surgery and its risk factors and outcomes.

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Postoperative AKI has been described to occur in 5% to 42% of pediatric patients undergoing cardiac surgery. The incidence of acute kidney injury in children after cardiac surgery was reported to be 9 to 42% in children, 52% in infants and 64% in neonates with biventricular cardiac repair. The relatively wide range of AKI incidence can be partially accounted for by differences in the definition of AKI. In addition to the definition of AKI used, other factors such as baseline characteristics, complexities of cardiac condition, and surgeries performed may all have contributed to the variation in incidence of AKI. This is the first ever study done from India specifically looking at risk factors & predictors of AKI in infants, as infants are a high-risk group.

Methods: This was a prospective, observational study. All infants undergoing any cardiac surgery at a single center in India from September 2022 to September 2023 were included in our study. Exclusion criteria included patients with pre-existing renal conditions, needing pre-operative ventilation or extracorporeal support, and pre-operative inotropic support. Outcomes monitored included development of AKI, daily serum creatinine until post-op day 7, and hourly urine output. Stage of AKI, day of development of AKI, need of RRT were recorded. Fluid overload was calculated based on daily weights. SPSS was used to analyze the data.

Results: A total of 140 infants with cardiac surgery were included. The incidence of AKI was 33.6% (47/140) [Stage 1: 26 (55.3%), Stage 2: 14 (29.8%) and Stage 3: 7 (14.9%)]. The need of RRT was in 6 (12.8%) infants with AKI. The median (IQR) age of the infants was 4 (2 - 9) months [10 (7.1%) aged <1 months]. A total of 107 (76.4%) infants were boys, 74 (52.9%) had a cyanotic heart disease, 20 (14.3%) had a previous cardiac surgery, 44 (31.4%) had a development of sepsis, 10 (7.1%) required re-exploration / second operation, and 23 (16.4%) required prolonged ventilation (>48 hrs). The mortality was observed to be 2.9%.

Discussion: The infants with AKI as compared to non-AKI were younger [median (IQR) age: 3 (1 - 8) vs. 5 (3 - 10) months; $p=0.010$]. In the multivariate logistic regression analysis, prolonged ventilation (≥ 48 hours) and type of heart disease (cyanotic) were significantly associated with AKI. The infants who died were observed to have a higher median CPB time, pre-operative creatinine, and duration of procedure. Also, the infants who died had a higher proportion of sepsis development, hematological complications development, need for RRT, re-exploration / second operation, and prolonged ventilation. The duration of stay in ICU [5 (4 - 7) vs. 4 (3 - 4) days; $p<0.001$] and in hospital [9 (8 - 12) vs. 8 (7 - 9) days; $p<0.001$] was observed to be higher among infants with AKI as compared with non-AKI.

Abs ID: 22

Abstract Title: Machine Learning Augmented Prediction of Neonatal Acute Kidney Injury Across Low Income Countries

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Acute Kidney Injury (AKI) affects 30-38% of neonates in the NICU, increasing to 71% when congenital abnormalities are present. This is particularly the case in low-income countries. Current detection methods of Serum Creatinine (SCr) and urine tests are inefficient and result in missed detections; current models and scoring systems are inapplicable for neonates or in low-income settings due to the complexity associated with widespread integration into these countries' hospital systems. The purpose of this research is to develop an AI model for neonatal AKI prediction using numerous features and a uniformly gathered dataset from multiple hospitals.

Methods: The dataset used contains patient data collected from 11 hospitals in India, including 85 tracked features like biomarkers and detailed patient profiles. The dataset of size 763 includes patients who were neonates in India, aged 28 days old or younger when admitted to the NICU, and receiving intravenous (IV) fluids for at least 48 hours. A final weighted average model is developed and tested following the evaluation of five algorithms: XGBoost Classifier, Neural Network, Decision Tree Classifier, Random Forest Classifier, and Logistic Regression.

Results: The final model, with an F1 score of 0.93, recall of 0.93, accuracy of 0.95, precision of 0.93, and an AUC of 0.97, showed strong performance. Of the 763 neonates included in the study, 187 (24.5%) developed AKI, while the remaining 576 neonates did not. Exclusions in the dataset were made for neonates who died within 48 hours or had other conditions such as lethal chromosomal anomalies. The uniformity in data collection across hospitals improves the model's applicability and ease of integration into low-income countries' healthcare systems.

Discussion: The objective of developing an effective AKI prediction model was met. Despite successes, challenges with dataset size, imbalance, and number of features tracked show the need for further improvement. Future work will include these changes and integrate the model into medical practices, improving outcomes in resource-constrained environments.

By addressing the current limitations and expanding the dataset and its collection process, this machine learning model and others like it have the potential to become valuable tools for hospitals, helping the treatment and outcomes of neonates with AKI across the globe.

ABSTRACT and POSTER RESEARCH

Abs ID: 23

Abstract Title: Investigating the Neurological Basis of Visual Impairments in Parkinson's Disease

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Vergence, a key eye movement mechanism that allows the eyes to successfully focus on targets at different depths, is driven by a neural circuit with two triggers: retinal disparity and visual blur. Retinal disparity triggers fusional vergence, allowing the brain to integrate two retinal images, and visual blur triggers lens accommodation to bring objects into sharp focus.

Parkinson's disease (PD), the second-most common neurodegenerative disease, affects 10 million people worldwide and commonly presents with visual impairments such as convergence insufficiency and diplopia. Research has shown that PD affects the vergence neural circuit, but the neurological basis of these impairments is not well-understood. In this study, we hypothesize that PD affects disparity-driven binocular vergence, while deterioration in blur-driven monocular vergence is consistent with age-related changes. We hope to address the gaps in our current understanding of visual neural circuits by identifying how PD affects vision.

Methods: Responses to binocular and monocular visual tests were examined in 19 elderly patients with PD and 6 age-matched healthy controls. PD diagnosis was based on the UK Brain Bank criteria and clinical impression. Two high-resolution video oculography cameras were used to collect eye position and alignment measurements in response to LED light stimuli at various distances along the sagittal plane. Calibrations, gaze-holding trials, and vergence trials were conducted to characterize eye responses during various tasks. The data were processed and analyzed using custom scripts in MATLAB. Lens accommodation, gaze shift, and pupil size comparisons were performed using one-way ANOVA tests on GraphPad Prism.

Results: PD subjects were categorized into two groups, considering their time-based control of eye alignment compared to healthy controls. Group 1 had good control and displayed well-aligned eyes greater than 80% of the time, and Group 2 had intermediate to poor control and displayed increased eye deviation for a majority of trials. Compared to controls, both PD groups showed greater eye deviation under monocular viewing conditions.

Dunnnett's T3 Test for multiple comparisons found that the mean binocular vergence gain was significantly different between the control group and Group 2 ($p = 0.008$, 95% C.I. = 0.2022 to 0.9224). Similarly, the mean vergence gain was significantly different between Group 1 and Group 2 ($p < 0.0001$, 95% C.I. = 0.2860 to 0.5601). However, there was no statistically significant difference in mean binocular vergence gain between the control group and Group 1 ($p = 0.5301$). For right and left eye monocular viewing trials, there were no statistically significant differences in disconjugate gain among the control group, Group 1, and Group 2.

Attenuated pupil size changes were also observed in PD patients as a result of convergence insufficiency. Additionally, the control and PD groups displayed relatively consistent levels of lens accommodation impairment.

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Abs ID: 23 continued

Discussion: Our data showed that under binocular viewing conditions, significant differences in vergence gain and pupil size change were observed between controls and PD patients. Under monocular viewing conditions, control and PD groups experienced similar impairments in vergence gain and lens accommodation. These data suggest that disparity-driven components of vision are affected by PD, while blur-driven components of vision are unaffected by PD and likely deteriorate due to age. This research can open new avenues for targeted therapies aimed at slowing the progression of visual impairment in patients with Parkinson's disease.

Abs ID: 24

Abstract Title: Depth-Dependent Changes in Impaired Saccadic Control in Parkinson's Disease

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Parkinson's Disease (PD) is a neurodegenerative disorder that affects motor control, including the coordination of eye movements. Saccades, rapid eye movements that shift the focus of vision between points, are commonly disrupted in PD, leading to delays in initiating eye movements and altered precision. Previous studies have shown that PD patients often exhibit increased saccadic latency and reduced gain, particularly during tasks involving conjugate (both eyes moving together) eye movements. However, the impact of different visual depths and monocular versus binocular viewing conditions on saccadic behavior in PD remains less explored, necessitating further investigation into these visual-motor impairments.

Methods: This study investigated saccadic eye movements at various depths and widths in patients with Parkinson's Disease (PD) and age-matched control subjects. Experimental procedures were carried out using a high-resolution EyeLink 1000[®] eye tracker, which captures binocular horizontal and vertical movements with 0.01[°] spatial and 500 Hz temporal resolution. Subjects performed a series of 12 saccades per trial across two sets of targets at different distances (one near and one far), under three viewing conditions: right eye only, left eye only, and both eyes. MATLAB scripts were used to analyze the eye tracker data and measure saccadic metrics such as latency, gain, and disconjugacy.

Results: Results showed that PD patients exhibited increased latency and greater conjugate gain compared to controls, with more pronounced differences in near saccades for latency.

Discussion: These findings suggest impaired saccadic control in PD patients, particularly for conjugate eye movements at a near depth. They also suggest that these impairments are less prominent with a farther target.

ABSTRACT and POSTER RESEARCH

Abs ID: 25

Abstract Title: Efficacy of Various Vasodilators in Reducing Oxygenation Index in Persistent Pulmonary Hypertension of Newborn (PPHN): A Systematic Review

Abstract Topic: Clinical Research

Presenting Author: Parth Shirode

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Abstract Content:

Introduction: Persistent pulmonary hypertension of the newborn (PPHN) is characterized by high pulmonary vascular resistance and ongoing hypoxemia post-birth. Despite better understanding and neonatal care, PPHN mortality rates remain between 7% and 15%. The oxygenation index (OI) serves as a clinical marker for initiating vasodilator therapies and predicting outcomes like mortality. It helps adjust ventilator settings, including FiO₂ and Positive End Expiratory Pressure, to optimize oxygen levels safely. While inhaled Nitric Oxide (iNO) is the recommended first-line treatment, our systematic review assesses the effectiveness of various vasodilators in reducing OI in PPHN.

Methods: We systematically reviewed the literature using scientific databases including PubMed, Embase, Scopus, Web of Science, Cochrane Library, and NIH's Clinical Trials database. Studies were included if they were conducted on newborns (≤ 28 days) diagnosed with PPHN, randomized control trials, articles in English, vasodilator drugs as intervention, the Oxygenation Index as an outcome variable, and published between 1990-2023. A total of 1681 studies were narrowed down to 17 which met inclusion criteria.

Results: In a review of 5 studies involving 387 neonates with PPHN, iNO demonstrated significant improvements in OI compared to control treatments. Key results include a 50% median reduction in OI at 12 hours ($P = 0.03$) and a drop from 43 to 22 in OI in 53% of the iNO group versus 7% in controls ($P = 0.002$). Combining surfactant with iNO led to faster, sustained oxygenation improvements. Additionally, switching non-responders from MgSO₄ to iNO showed higher survival rates. Among 6 studies involving 258 newborns, sildenafil showed varied results. IV sildenafil did not significantly differ in OI reduction compared to placebo ($p=0.548$). Oral sildenafil significantly decreased OI over 12 hours, compared to placebo. Combined treatment with IV sildenafil and iNO showed similar OI reductions as iNO alone. Oral sildenafil outperformed IV magnesium sulfate in OI reduction after 12 hours and showed a 25% greater decrease in OI than IV sildenafil. Other trials evaluated magnesium sulfate (MgSO₄) and Bosentan. Nebulized MgSO₄ showed a 44.3% improvement in OI over 24 hours, superior to a 35.3% improvement with IV MgSO₄ ($P = 0.003$). Bosentan displayed a significant improvement in one study ($P < 0.05$) but showed no difference in another. Small sample sizes in Milrinone studies limited the conclusions that could be drawn.

Discussion: Our systematic review highlights the variability and potential of different vasodilators to decrease OI in PPHN. While inhaled Nitric Oxide remains the cornerstone of treatment, emerging evidence suggests that combining treatments like surfactants and evaluating alternative agents such as sildenafil and magnesium sulfate may enhance therapeutic outcomes. Further research is needed to optimize these interventions and improve survival rates among neonates with PPHN, reinforcing the need for large-scale clinical trials.

Abs ID: 26

Abstract Title: Investigating Inhibition of GABA Transaminase to Improve Insulin Sensitivity in Fatty Liver and Diabetes Mellitus

Abstract Topic: Basic Science

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Abstract Content:

Introduction: Metabolic dysfunction associated steatotic liver disease is associated with the prevalence and severity of hyperinsulinemia and insulin resistance. The hepatic vagal nerve is important in regulating food intake patterns, regulates insulin release, and is dysregulated by weight gain and high-fat diet feeding, which is rescued by surgical ablation of the hepatic vagal nerve. Acute hepatic vagotomy stimulates insulin release and insulin resistance, while acute stimulation results in improved glucose clearance and insulin sensitivity. Surprisingly, chronic hepatic vagotomy mutes obesity-induced hyperinsulinemia and insulin resistance. Together, this data proposes that the hepatic vagal nerve is important in both insulin sensitivity and the development of insulin resistance. Hepatic lipid accumulation causes a dose-dependent increase in liver GABA production. This liver lipid induced GABA production decreases hepatic vagal afferent signaling, increasing basal insulin and causing insulin resistance. The GABA shunt is the metabolic pathway responsible for liver GABA production. In fact, pharmacological inhibition or knockdown of GABA transaminase (GABAT) lowers ex-vivo liver slice GABA production, enhances in-vivo insulin sensitivity, and reduces obesity induced hyperinsulinemia.

GABAT is best known as a key enzyme in central nervous system (CNS) GABA breakdown. In turn, all currently available GABA transaminase inhibitors were developed to treat epilepsy by preventing central nervous system breakdown of GABA and increasing CNS inhibition. To treat insulin resistance and hyperinsulinemia while limiting the side effects of inhibiting CNS GABA breakdown, we focused on identifying large, charged novel GABA transaminase inhibitors to limit blood brain barrier penetrance.

Methods: We first used Schrödinger software to screen 70,000 compounds for their interactions with the crystal structure of GABA transaminase. We identified 58 commercially available compounds that were predicted to interact with the enzymatically active site on GABA transaminase. We transfected E. Coli to allow for inducible production of 6X his tagged human GABA transaminase (hGABA-T). To test inhibition of GABAT, we modified an existing enzyme assay protocol using in-house purified SSADH and GABAT to test activity with screening compounds selected by in-silico docking. E. coli was used to produce an active human GABAT with a SUMO tag and without the mammalian signal peptide.

Results: Multiple studies on the human GABAT showed relative protein insolubility, so we added a SUMO tag and removed the mitochondrial signal peptide so that it could be used in enzyme activity assays. We then screened all 58 compounds for both inhibition of human and bacterial GABA transaminase. Multiple inhibitors inhibited both bacterial and human GABA transaminase in 100-300 μ M concentrations and were moved into pre-clinical testing. 5 days of treatment with two inhibitors (0.8 mg/kg body weight) improved insulin sensitivity and lowered serum insulin in diet-induced obese mice.

Discussion: Inhibition of human GABAT shows a stronger association with the inhibition studies in mice than the bacterial GABAT, providing evidence that the enzyme inhibition assay can identify potential inhibitors accurately. Additionally, GABAT inhibition in mice showed promising improvements in insulin sensitivity. Future studies will focus on improving the binding efficacy and specificity of this compound, while limiting its BBB penetrance.

ABSTRACT and POSTER RESEARCH

Abs ID: 27

Abstract Title: Genetic Regulation of STIM1 Gene in Human and Mice Muscle

Abstract Topic: Basic Science

Presenting Author: Mihir Patel

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Abstract Content:

Introduction: Stromal interaction molecule 1 (STIM1) is an important calcium sensor and activator of store operated Ca²⁺ entry (SOCE) in muscle. STIM1 is located in the SR membrane where it acts as a Ca²⁺ sensor and activator of store operated calcium channels. The loss or gain of function of STIM1 has been implicated in various cardio-metabolic diseases. Increased STIM1 expression in human muscle correlates to increased exercise capacity. However, the STIM1's role in signaling normal human muscle still needs to be elucidated. STIM1 is preferentially expressed in oxidative muscle through a mechanism involving the transcriptional coactivator PPAR coactivator 1alpha (PGC-1alpha). Transgenic mice exhibiting PGC-1alpha in muscle, a model of exercise adaptation, have increased STIM1 and SOCE levels in skeletal muscle. It is hypothesized that STIM1 expression in human muscle correlates with exercise capacity in which STIM1 and PGC-1 exist in the regulatory loop to increase the oxidative capacity of skeletal muscle. The goal of this honors thesis was to elucidate details about this regulatory loop to better understand the mechanism by which STIM1 signaling influences human muscle.

Methods: Promoter fragments of hSTIM1 with different lengths have been cloned into the pGL3 vector. Successful insertion of the fragments was confirmed via DNA sequencing and gel electrophoresis. Dual luciferase assay systems were used to test for the promoter strength of these fragments. Mutations were then introduced into the promoter sequences predicted to be responsible for binding PGC-1alpha, and further luciferase assays were conducted on these mutated vectors.

Results: Results are reported using the ratio of Firefly to Renilla luciferase activity.

Discussion: Based on the results of the transcriptional assays, it seems that PPAR does indeed act as a transcription factor for STIM1. Specifically, when viewing the discrepancy in transcriptional activity between the 1.3kb plus PGC1 and 2.1kb plus PGC1 suggests that important PGC1 binding sites exist within the 800bp region contained by the 2.1kb fragment but excluded by the 1.3kb (from 4890 to 5568).

Abs ID: 28

Abstract Title: HNF1B mutations and diabetes: Connecting the dots!

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: HNF1B mutations are recognized for their role in developmental abnormalities of the kidneys, pancreas, liver, and mullerian duct. It presents a wide phenotypic variability and can cause a plethora of manifestations including renal cystic disease, hypoplastic kidneys, renal agenesis, and maturity-onset diabetes of the young (MODY) type 5. Notably, HNF1B is involved in the regulation of HNF4a, a gene that encodes for the pancreatic glucose transporter, GLUT2. The HNF1B mutation can sometimes result in pancreatic exocrine dysfunction or atrophy, ultimately leading to diabetes.

Methods: We present a case report of a 30-year-old male patient with ESKD thought to be secondary to atrophic kidney and tubulointerstitial disease, who is currently on the kidney transplant list. His medical history is significant for insulin-dependent diabetes mellitus diagnosed at the age of 16.

Results: During his evaluation for renal transplantation, genetic testing identified a pathogenic mutation in the HNF1B gene (p.Ser148Leu, c.443C>T). It is inherited in an autosomal dominant fashion, or through de-novo mutations (~50%) of the time with no family history. The patient has no known family history of diabetes or renal disease, making this a sporadic case.

Discussion: This report underscores the importance of genetic evaluation in young patients with renal disease, particularly when a syndromic cause is suspected. Early detection of an HNF1B mutation can influence both the management of renal failure and the screening for extrarenal manifestations such as diabetes. The patient remains on the transplant list, with further monitoring of his overall clinical status.

ABSTRACT and POSTER RESEARCH

Abs ID: 29

Abstract Title: Evaluation of SBK4-TR binding affinity to the PTP μ biomarker in breast cancer tissue

Abstract Topic: Basic Science

Presenting Author: Naraen Naidu

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Abstract Content:

Introduction: Brain tumors can develop from secondary metastases of breast cancer to the brain. The current way to treat brain tumors involves a craniotomy, a procedure in which a fragment of the skull is removed in order to access the brain, and the excision of the tumor. Although the tumor is excised, there is a chance of tumor tissue being left behind in the brain, a problem that our research hopes to solve by allowing a surgeon to optically image and resect the whole tumor.

Methods: In this study, we aim to first determine if we can label primary breast tumor tissue using a fluorescently labeled peptide SBK4-Texas Red (TR). Subsequent studies will test the labeling of metastatic breast cancer to the brain. The SBK4-TR peptide works by binding to a cleaved receptor protein tyrosine phosphatase mu (PTP μ) biomarker within the tumor tissue. A scrambled peptide, Scram-TR – a version of a peptide where the order of the amino acid sequence is scrambled in such a way that the peptide is unable to bind to PTP μ – was used as a control.

Results: To determine if the peptide will bind to the cancerous versus normal tissue, a histochemistry procedure was developed in which the tissue was deparaffinized, rehydrated, blocked in a mixture of phosphate-buffered saline and goat serum, treated with the appropriate peptides, and then imaged. The results of the study indicate that there is a specific positive signal in primary breast tumors by SBK4-TR labeling of the PTP μ biomarker.

Discussion: This is important as it allows us to move forward and determine if these peptides can be used in clinical trials of primary and metastatic breast cancer.

Abs ID: 30

Abstract Title: Challenges with Diagnosis of Labial Agglutination due to Lichen Sclerosus

Abstract Topic: Clinical Research

Presenting Author: Esha Ghosalkar

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Abstract Content:

Introduction: Labial adhesion (LA) lacks a clear etiology but is associated with low estrogen levels and lichen sclerosus (LS). Genitourinary Syndrome of Menopause (GSM) is a frequent contributor due to low estrogen. If symptoms persist after use of topical estrogen, surgical resection of adhesions is needed for urinary and sexual function.

Lichen sclerosus (LS) is a chronic inflammatory disease characterized by anogenital white plaques and pruritus. Early diagnosis and treatment of LS can decrease the risk of development of labial adhesions. There is a lack of information on the etiology of labial agglutination; specifically whether it is from LS or GSM—or both. Although lichen sclerosus is a known etiology of labial adhesions, it is frequently not associated with the diagnosis. Additionally, there are no retrospective or prospective studies evaluating the rate of diagnosis of LS via biopsy in patients receiving surgery to correct their labial agglutination. The objective is to investigate LS prevalence as an etiological factor and evaluate the necessity for enhanced biopsy rates in LA patients.

Methods: The TrinetX database was used to obtain medical data from 80 healthcare centers globally. The cohort studied was patients with LA, identified using the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) coding. The cohort was stratified by those that underwent surgery on the vulva 2 years after diagnosis of LA to establish a causal relationship. Furthermore, a second cohort of patients with LA and a concomitant diagnosis of LS was identified. Each cohort underwent stratification by age and race.

Results: 11,875 women over the age of 18 were diagnosed with LA from 2000-2023. Of those, 3,673 (30.93%) underwent a surgical procedure on the female genital system within 2 years. Demographic data included a mean age of 45 years, 67.9% identified as white, 6.53% as Black/African American, 20.52% unknown, and 2.45% other races. Of the 3,673 total women, 11% had a documented biopsy prior to or with the surgery, leading to 11% (395 women) being diagnosed with LS. Limitations include inconsistent medical coding, uncertain causality between conditions, and potential data inconsistencies from the national database.

Discussion: The data collected indicates that labial agglutination is a disorder with a complex etiology, yet does have an association with LS, emphasizing the need for biopsy to provide appropriate clinical management. This can also prove challenging with lack of medical coding, leading to inconsistent diagnosis and treatment of LA. Future studies further investigating the etiologies of labial agglutination and their prevalence would shape how female sexual healthcare disorders like labial agglutination are approached to provide better patient care.

ABSTRACT and POSTER RESEARCH

Abs ID: 31

Abstract Title: Dichoptic Visual Search in Amblyopia

Abstract Topic: Clinical Research

Presenting Author: Ibrahim Quagraine

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Abstract Content:

Introduction: Amblyopia is a neurodevelopmental disorder caused by mismatched visual input to both eyes during early childhood. This causes abnormal binocular interactions within the brain that leads to interocular suppression, where visual signals from the non-amblyopic fellow eye (FE) actively suppresses the signals from the amblyopic eye (AE). This reduced binocular combination results in reduced visual acuity and stereoacuity (3D vision). Dichoptic therapy, which involves presenting visual stimuli independently to each eye, has emerged as a promising approach. By reducing the contrast of the stimulus presented to the FE, this therapy counters suppression, allowing for contrast balance and facilitating binocular combination (use of both eye). Our study aims to examine subjects' behavioral performance (accuracy and reaction times) in identifying visual targets in dichoptic paradigms and correlate the performance with the severity of visual acuity deficits, and interocular suppression.

Methods: We recruited 35 subjects (controls = 13 and amblyopia = 22). Amblyopia was classified by severity of disease as mild (n = 7), moderate (n = 15), based on etiology as strabismic (n = 11), anisometropic (n = 11), degree of suppression as low (n = 9), severe (n = 13). Subjects performed gaze holding, visual search, and spot the picture difference tasks under dichoptic viewing of contrast-balanced images where the AE contrast was held constant at 100%, and the FE contrast was gradually lowed (100%, 50%, 25%, 10%). The areas of interest were equally divided into fellow eye (FE) and amblyopic eye (AE) targets. The correctly identified targets and reaction times were recorded. An adaptive staircase method was used to measure visual acuities and inter-ocular suppression using Dichoptic Motion Coherence [threshold at given FE contrast was determined using the area under the curve (AUC)].

Results: Participants with amblyopia had significantly slower response times than controls [F (1, 165) = 17.70, $p < 0.0001$, partial $\eta^2 = 0.091$] and lower accuracy [amblyopia subjects (M = 0.64, SD = 0.30) vs control (M = 0.90, SD = 0.16), $p = 0.03$] in identifying the target presented to the amblyopic eye in the dichoptic environment. However, there were improvement in performance as the fellow eye contrast was lowered [F (4, 165) = 2.58, $p = 0.04$, partial $\eta^2 = 0.053$]. Participants with less interocular suppression showed better search performance in the amblyopic eye [F (2, 160) = 11.58, $p < .01$, partial $\eta^2 = 0.12$], while those with stronger suppression showed worse performance [F (4, 160) = 2.76, $p = 0.03$, partial $\eta^2 = 0.20$].

Discussion: The results suggest dichoptic visual search may be a useful pediatric friendly tool for optimizing comprehensive treatment approaches that address the amblyopic eye's visual deficits and leads to improve visual performance, motion perception and reading speeds.

Abs ID: 32

Abstract Title: Usage of Artificial Intelligence in Predicting Pediatric AKI

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Acute Kidney Injury(AKI) is commonly associated with many complications in pediatric patients. More Artificial Intelligence(AI) models are being developed for AKI severity prediction and the pathway of AKI. The performance of multiple machine learning (ML) models were evaluated in their ability to predict AKI in the pediatric field.

Methods: A literature search was conducted through EmBase, Web of Science, and PubMed to find all pertaining literature to AKI in pediatric patients. Included studies contained the variables regarding the success of the AI model. Original studies that consisted of prospective studies, retrospective studies, and cohort studies were included, while reviews and case reports were excluded. Patients had to be at/under the age of 18 with reported diagnosis of AKI to be included.

Results: 12 studies were included in the data pool of pediatric patients with AKI. The analysis is currently underway, however, we are going to use the pooled analysis, heterogeneity, as well as confidence intervals [95% confidence interval (CI)] of the sensitivity, specificity, AUC, PPV, NPV, accuracy, and F1. DeLong's test will also be utilized to compare the AUC/ROC curves of the AI models.

Discussion: We are aiming to find significant differences between the predictive capabilities in the AI models used in our study. We are hoping to detect an AI model that we can implement in triage and clinical practices to obtain results ahead of the AKI timetable and prevent adverse outcomes in the pediatric population.

ABSTRACT and POSTER RESEARCH

Abs ID: 33

Abstract Title: Safety and Efficacy of Levetiracetam for Seizure Prophylaxis in Octogenarian Patients Following Traumatic Brain Injury

Abstract Topic: Clinical Research

Presenting Author: Sindhu Kosuru BA

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Abstract Content:

Introduction: Levetiracetam (LEV), a second generation anti-epileptic drug, is routinely prescribed to

patients for seizure prophylaxis following traumatic brain injury (TBI). Limited research exists on the

safety and efficacy of LEV in octogenarians. This study investigates the association between LEV

administration for seizure prophylaxis and outcomes in octogenarian patients with severe TBI.

Methods: A single-center retrospective review of our institutional trauma registry for octogenarian patients admitted with severe TBI (AIS Head ≥ 3) from January 2021 - May 2023 was performed. Patients were excluded if they died within 7 days of admission for TBI, were admitted for TBI with an active anti-epileptic drug prescription, or presented to the ED with seizures. Relevant clinical and demographic data was extracted, including age, sex, race, AIS score, GCS score, ISS score, length of hospital stay, three-month mortality, three-month readmissions, seizure occurrence, and adverse effects. Heteroscedastic two-tailed t-tests, chi-squared tests, and Mann-Whitney U tests with alpha values of 0.05 were performed to determine statistical significance.

Results: One hundred thirty-two patients with AIS ≥ 3 were included in the final analysis. There were no significant differences in baseline characteristics including age, sex, race, and GCS between LEV-prescribed patients and non-LEV prescribed patients. However, ISS was significantly higher in the LEV group (17 vs. 11; $p=0.041$). Three LEV patients (3.6%) were discontinued due to adverse effects including drowsiness. Five LEV patients (6.0%) experienced seizures after starting medication, of which four experienced no additional seizures at 3 months follow-up. No non-LEV patients experienced seizures. Hospital stay was significantly longer in the LEV group (8.6 ± 5.2 vs. 6.8 ± 4.7 ; $p=0.042$).

Discussion: Levetiracetam is safe and well-tolerated for seizure prophylaxis in octogenarian patients following TBI. Levetiracetam is generally prescribed to patients with more severe TBIs. Further studies are needed to determine long-term outcomes of levetiracetam in octogenarian patients.

Abs ID: 34

Abstract Title: Periorbital Pilomatrixoma: A Rare Benign Skin Tumor Misdiagnosed as Cellulitis

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: We describe an unusual case of a rapidly progressive pilomatrixoma along the left brow, which was initially misdiagnosed and treated as preseptal cellulitis. Although rare, pilomatrixomas and other adnexal tumors should be considered in the differential diagnosis of a growing mass near the brow.

Methods: A 29-year-old male presented to the emergency department with a progressively enlarging left brow lesion, initially noted 3 weeks prior. Exam revealed an erythematous left subbrow mass that measured 2.5 x 2 cm, with resultant mechanical ptosis. The lesion was initially misdiagnosed and treated as preseptal cellulitis, with concern for abscess. The patient ultimately underwent excisional biopsy of the lesion and pathology revealed pilomatrixoma.

Results: Pilomatrixoma has similarities to more common skin lesions. Complete surgical excision is therapeutic and allows for diagnostic confirmation. Histopathology is required to rule out pilomatrix carcinoma, a malignant variant.

Discussion: Pilomatrixomas are challenging to diagnose clinically due to their similarities with other common skin lesions. As a result, histological analysis is essential to confirm diagnosis, rule out pilomatrix carcinoma, and reduce the risk of malignant transformation. Although uncommon, pilomatrixomas should be considered in the differential diagnosis of growing subcutaneous masses in the periocular region.



ABSTRACT and POSTER RESEARCH

Abs ID: 35

Abstract Title: Characterization of Breast Implant Illness in the Plastic Surgery Population

Abstract Topic: Clinical Research

Presenting Author: Simran Chandawarkar

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Abstract Content:

Introduction: Silicone breast implants have been utilized in practice for decades; the US sees roughly 400,000 annual implant-based surgeries. Recent concerns relate to a constellation of symptoms defined as Breast Implant Illness (BII), characterized by a range of over 50 symptoms. We aimed to determine what the true presence of BII symptoms are in the plastic surgery clinic population to ascertain if these symptoms occur more frequently in breast implant patients.

Methods: This is a prospective, single-centered control trial. Female patients over 18 years of age voluntarily completed a survey that included the presence/absence of breast implants along with asking if they have any of the published main BII symptoms. The symptoms range from nondescript headache and fatigue to more specific pain related to their surgery. Our endpoint is 500 patients.

Results: This data is still being analyzed, but preliminary results are stated. Of the patients with implants, the following noted positive symptoms: 27.3% fatigue, excess joint/muscle pain, brain fog, hair loss, headaches, depression and rashes, 36.3% insomnia; 45.5% dry eyes; 9.1% abdominal pain/constipation; 27.3% rashes, 63.6% neck/back pain, 18.2% heat/cold intolerance, 36.4% anxiety, 9.1% weight gain. Of the patients without implants, the following noted positive symptoms: 23.1% fatigue and brain fog, 12.8% joint/muscle pain, 12.8% hair loss, 48.7% insomnia, 17.9% dry eyes, 28.2% rashes, 12.8% abdominal pain, 43.6% neck/back pain, 10.3% heat/cold intolerance, 43.6% anxiety, 17.9% depression, 7.8% weight gain. These show that some symptoms are far more present in BII patients than others.

Discussion: As data collected recently ended and statistical analysis is still being made, strong conclusions cannot be drawn yet regarding this data. We do, however, see that breast implant illness symptoms can vary widely among patients, and do not seem to have a pattern as to who or how they affect each woman. We are looking further into risk factors for developing BII and how we can best mitigate these going forward. These conclusions will be complete shortly.

Abs ID: 36

Abstract Title: Five-Year Outcomes After Shoulder Dislocation in Patients With and Without Obesity

Abstract Topic: Clinical Research

Presenting Author: Parshva Sanghvi

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Abstract Content:

Introduction: As the most mobile joint in the body, the glenohumeral joint (GHJ) is at risk of dislocation. The prevalence of obesity is increasing, and elevated BMI may have implications for the orthopaedic patient. This study sought to determine the effect of obesity on five-year clinical outcomes following GHJ dislocation.

Methods: The TriNetX/US Collaborative Network database was queried to identify adult patients diagnosed with shoulder dislocation using ICD-10 codes. Propensity score matching was utilized to compare patients with obesity ($BMI \geq 30$) to patients without obesity ($18.5 \leq BMI < 30$) in a 1:1 ratio based on age, sex, race, comorbidities, and problems related to housing and economic circumstances. Outcomes at five-years included GHJ re-dislocation, GHJ subluxation, nerve injury, axillary artery injury, biceps tendon injury, rotator cuff (RC) injury, glenoid labrum tear, dislocation or subluxation of the sternoclavicular joint (SCJ) or acromioclavicular joint (ACJ), Hill Sachs lesion, acute or chronic RC repair, Latarjet procedure, Bankart procedure, or shoulder osteoarthritis. Descriptive statistics and univariate analysis were performed to compare cohorts.

Results: Each cohort consisted of 14,607 patients and remained significantly different in age (49.1 ± 20.9 vs. 47.1 ± 19.1 , $p < 0.0001$) and rate of diabetes mellitus (12% vs 13%, $p = 0.0025$). Mean BMI was 25.6 ± 3.95 ($18.5 \leq BMI < 30$ cohort) and 33.4 ± 5.42 ($BMI \geq 30$ cohort). There was no difference in GHJ re-dislocation (36.4% vs. 35.4%, $p = 0.0924$). Obesity was significantly associated with RC injury (6.1% vs. 7.3%, $p < 0.0001$), acute RC repair (0.4% vs. 0.7%, $p = 0.0007$), and biceps tendon injury (0.7% vs. 1.1%, $p = 0.0005$). Patients without obesity were more likely to experience ACJ instability (3.0% vs. 1.9%, $p < 0.0001$).

Discussion: This is the first study comparing outcomes after GHJ dislocation among a propensity-matched cohort of patients with and without obesity across diverse geographic regions. The present study demonstrates that patients with GHJ dislocations have similar GHJ instability outcomes at five-years, regardless of BMI. However, the rate of GHJ re-dislocations in both cohorts is higher than previously reported for this age group and may suggest the need for more aggressive management. Patients with obesity should be counseled on possible associated injuries as there was a higher risk for tendon injury and acute RC repair in this analysis.

ABSTRACT and POSTER RESEARCH

Abs ID: 37

Abstract Title: Characterization of Neuraminidase-Directed Influenza B Monoclonal Antibodies

Abstract Topic: Basic Science

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Abstract Content:

Introduction: Influenza virus poses a huge public health burden in the US with nearly 29 million symptomatic cases and 28,000 deaths in the 2018-19 season. Prior research has focused on ascertaining therapeutic treatments to hemagglutinin, one of two major glycoproteins found on the virion surface. With recent literature suggesting a more distributed immune response across several glycoproteins, there is renewed interest in identifying monoclonal antibodies against neuraminidase, which in influenza B (40% of the total influenza burden) is less susceptible to antigenic mutation.

Methods: A 19-year-old female was naturally infected in 2020 with a Victoria strain IBV. Seven days following the onset of symptoms, peripheral blood samples were taken, peripheral blood mononuclear cells (PBMCs) were isolated via flow cytometry, and cells were sorted for long-lived plasma cells (LLPCs). The PBMCs were single-cell sequenced via 10x Chromium single-cell encapsulated system, which resulted in paired antibody light- and heavy-chain sequences for both populations. These populations were then assessed for shared immunoglobulin heavy chain V, D, and J genes and identical CDR3 sequence regions. Selected antibody clones satisfying these conditions were chosen for microscale recombinant antibody expression. A panel of 34 influenza B NA-specific antibodies was selected for further experimentation based on positive binding capacity with NA glycoprotein.

These antibodies were tested for their binding capacity with several lineages of Influenza B virus using enzyme-linked immunosorbent assays (ELISAs). Antibody candidates that demonstrated strong binding potential were then tested for enzymatic inhibition of neuraminidase glycoprotein via enzyme-linked lectin assays (ELLAs). Finally, epitope mapping with alanine-scanning mutagenesis was conducted on antibody candidates that demonstrated strong enzymatic inhibition in order to identify residues critical for binding.

Results: All 34 antibodies displayed strong binding with B/Iowa/06/2017 rNA (Victoria). All antibodies, except for FluB-133, FluB-243, FluB-208, FluB-242, displayed strong binding while FluB-157 displayed moderate binding capacity to B/Colorado/06/2017 rNA (Victoria). Against B/Singapore/INFTT-16-0610/2016 rNA (Yamagata), all antibodies except for FluB-208, FluB-15, and FluB-217 displayed strong binding capacity while FluB-163 demonstrated moderate levels of binding. 22 of the monoclonal antibodies displayed moderate-strong binding potential to all three lineages, demonstrating a breadth of binding capacity. FluB-39 exhibited the strongest NA inhibition while FluB-362 exhibited poor enzymatic inhibition of Neuraminidase. For rFluB—259, residues K304 and Y383 were critical for binding. For rFluB-222, residues R374 and D149 were critical for binding.

Discussion:

Most antibodies displayed a breadth of binding potential across different lineages of IBV and strains, showcasing the conserved nature of the virus. Not all antibodies that demonstrated breadth of binding to all three lineages of IBV displayed enzymatic inhibition of NA,

Abs ID: 37 continued top - next column

Abs ID: 37 *continued*

proving that binding does not necessarily equate viral neutralization. Following ELLAs to characterize enzymatic inhibition, three monoclonal antibodies were selected to undergo alanine scanning mutagenesis to identify epitopes. Identifying these binding sites will be critical to elucidate the mechanization of these antibodies in the humoral response to influenza. Identifying novel monoclonal antibody candidates is key to understanding the mechanization of NA glycoprotein in IBV infections, informing universal influenza vaccination efforts, and developing alternative therapeutics.

Abs ID: 38

Abstract Title: AKI Post-Spine Surgery in Pediatric Patients

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Acute kidney injury (AKI) is a common post-surgical complication that can have significant consequences in terms of morbidity, mortality, and financial burden for patients. Spine surgery, in particular, poses unique risks for development of AKI, such as the time patients spend in the prone position and under general anesthesia. AKI has been well-studied in adult spine surgery patients, but studies of AKI in pediatric spine surgery patients are lacking. This study aimed to establish the incidence, risk factors, and outcomes of AKI post-spine surgery in pediatric patients.

Methods: The TriNetX database, of approximately 250 million identified patients from over 120 health care organizations across 19 countries, was used to find patients. Current Procedural Terminology (CPT) codes for spine surgery procedures and International Classification of Disease (ICD) codes for AKI were used to create two cohorts. The first cohort included pediatric spine surgery patients who developed an AKI perioperatively. The second cohort included pediatric spine surgery patients who did not develop an AKI. The outcomes measured included 90-day mortality, ICU admission, and initiation of dialysis. Kaplan-Meier curves were generated and odds ratios were calculated with 95% confidence.

Results: Amongst 9,328 pediatric spine surgery patients who met criteria, the incidence of developing an AKI perioperatively was approximately 5.7%. Exclusion criteria consisted of other major events that typically present elevated risk for AKI, including cardiac surgery, vascular surgery, and transplant. 90-day odds ratios were determined for mortality (OR [95% CI] 19.49 [11.28-33.67]; $p < 0.001$) and ICU admission (OR [95% CI] 4.59 [3.77-5.60]; $p < 0.001$). 90-day dialysis initiation for the AKI cohort was 4.51%, while 0 patients in the non-AKI cohort were put on dialysis. Leading contributing risk factors included sepsis and underweight BMI.

Discussion: These results suggest that adverse outcomes, including mortality, ICU admission, and initiation of dialysis, occur at a significantly higher rate for pediatric patients undergoing spine surgery when they perioperatively develop an AKI. As over 1 in 20 pediatric spine surgery patients develop an AKI, this represents substantial disease and mortality risk for infants and children undergoing procedures. Further studies are imperative towards the prevention of AKIs for pediatric spine surgery patients, as well as continued improvement of pediatric AKI treatment modalities.

ABSTRACT and POSTER RESEARCH

Abs ID: 39

Abstract Title: Usage of ARBs to treat renal fibrosis secondary to AKI and CKD- comprehensive review

Abstract Topic: Basic Science

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Abstract Content:

Introduction: Renal fibrosis is a progressive and pathological response featured in a number of kidney diseases that over time may contribute to increased kidney dysfunction and chronic kidney disease (CKD). As a physiological process, renal fibrosis is characterized by the activation of fibroblasts, inflammation, and the excessive production and deposition of extracellular matrix proteins in the kidneys. Given the increasing prevalence of renal fibrosis secondary to AKI and CKD, there remains to be a growing need for effective anti-fibrotic treatment strategies. Angiotensin receptor blockers (ARBs), traditionally used for managing hypertension, have emerged as promising therapeutic agents due to their capacity to inhibit the renin-angiotensin-aldosterone system (RAAS) and their demonstrated anti-fibrotic properties.

Methods: This comprehensive review was developed by searching PubMed using the keywords: "Renal Fibrosis," "Angiotensin Receptor Blockers," "Acute Kidney Injury," and "Chronic Kidney Disease." A total of 42 articles were selected and utilized in the creation of this paper.

Results: This comprehensive review evaluates the efficacy and therapeutic potential of ARBs in mitigating renal fibrosis secondary to AKI and CKD, by analyzing recent preclinical and clinical evidence.

Discussion: Additionally, this review identifies the molecular mechanisms involved, highlights the role of ARBs in attenuating fibrogenesis, and discusses potential areas for future research in optimizing anti-fibrotic therapies.



Abs ID: 40

Abstract Title: Renal Reserve Evaluation in Children with Severe AKI and MODS Undergoing Kidney Replacement Therapy

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Acute kidney injury (AKI) is a common and severe complication in critically ill pediatric patients, significantly impacting morbidity and mortality. Renal Functional Reserve (RFR) reflects the kidney's ability to increase glomerular filtration in response to physiological stress, which may be diminished following episodes of AKI. The Furosemide Stress Test (FST) is used to evaluate RFR by assessing the kidney's diuretic response, potentially predicting progression to severe AKI and guiding the need for renal replacement therapy (RRT). While the FST has been validated in adult populations, its predictive value in pediatric AKI remains under-explored.

Methods: The objective is to evaluate the renal reserve in critically ill children by utilizing the Furosemide Stress Test (FST) to assess renal tubular function and compare the outcomes of Furosemide Stress Test (FST) responsive and non-responsive patients, with a focus on the delay in kidney replacement therapy (KRT), mortality, ICU stay, and duration of ventilation.

Methods: We conducted a retrospective observational study in a pediatric intensive care unit at a tertiary care hospital from January 2018 to December 2023. The study included 83 critically ill children under 18 years of age who were diagnosed with AKI stage 3 and MODS at admission. Patients underwent the FST, which involved administering an intravenous dose of furosemide (1 mg/kg for furosemide-naïve patients and 1.5 mg/kg for those with prior exposure). Urine output was measured hourly for six hours post-administration, with an FST response defined as urine output exceeding 2 mL/kg at two hours.

Results: Of the 83 children analyzed, 44 (53%) were FST-responsive. The FST-responsive group had significantly less shock (25.0% vs. 56.4%, $p=0.004$) and disseminated intravascular coagulation (9.1% vs. 35.9%, $p=0.003$). Both groups required mechanical ventilation at similar rates, but the duration was longer in the FST-responsive group (7 vs. 3 days, $p=0.001$). The median ICU stay was also longer among FST-responsive patients (8 vs. 5 days, $p=0.004$). Notably, FST-responsive patients had delayed initiation of continuous kidney replacement therapy (CKRT) and were more likely to receive intermittent rather than continuous dialysis. Mortality rates did not differ significantly between the groups (34.1% vs. 53.8%, $p=0.070$).

Discussion: FST responsiveness is associated with fewer complications, a prolonged ICU stay, and a preference for intermittent over continuous dialysis, with a trend towards less mortality. FST non-responsive patients were critically ill, with a higher incidence of shock, disseminated intravascular coagulation (DIC), and the need for higher doses of inotropic support. These patients also had a higher mortality rate and tended to die earlier compared to the FST-responsive group.

FST in critically sick patients with MODS and severe AKI may be a valuable tool for guiding personalized management strategies in severe pediatric AKI, particularly in optimizing the timing and modality of renal replacement therapy.

Abs ID: 41

Abstract Title: Implementation of an Artificial Neural Network in Predicting Risk of Mortality in Neonates Susceptible to AKI

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Acute Kidney Injury (AKI) significantly contributes to neonatal morbidity and mortality, especially in Neonatal Intensive Care Units (NICUs), where the incidence can reach 38%, and up to 71% for neonates with congenital abnormalities. Early identification and intervention are critical for reducing mortality and improving long-term outcomes in these high-risk infants. Although the STARZ scoring system is commonly used to assess AKI risk, its predictive accuracy for mortality remains limited. More advanced tools are needed to refine risk prediction and support clinical decision-making in managing neonatal AKI. This study aims to develop and validate an Artificial Intelligence (AI)-based model—the AKI Neonatal Mortality Calculator (AKI-NMC)—to predict mortality risk in neonates with or at risk of AKI in NICUs.

Methods: This retrospective cohort study used the STARZ Development and STARZ Multicenter Validation datasets, including neonates (≤ 28 days) admitted to NICUs across 11 Indian healthcare centers from August 2018 to August 2020. Participants were selected based on AKI risk factors, excluding those with incomplete data or uncertain mortality outcomes. The final dataset included 269 neonates (232 survivors, 37 deceased), with 70% used for training and 30% for validation. SMOTE was implemented to mitigate bias of majority class of living patients. Key outcome variables included mortality, while predictors included the STARZ score, birth weight, NICU stay, and urine output. Models tested were Logistic Regression (LR), Random Forest (RF), Extreme Gradient Boosting (XGB), Support Vector Machine (SVM), and Artificial Neural Networks (ANN). Model performance was evaluated using AUC-ROC, threshold analysis, and k-fold cross-validation.

Results: Among tested models, Random Forest (AUC-ROC=0.9963) and XGBoost (AUC-ROC=0.9921) performed well, demonstrating high predictive accuracy. However, the ANN model (AUC-ROC=0.9892) was ultimately selected for clinical implementation. Despite a slightly lower AUC-ROC, the ANN model demonstrated superior clinical utility due to its ability to capture complex, non-linear relationships within the data. Additionally, the ANN's flexibility in handling synthetic data (generated via SMOTE) and real patient data enabled it to better generalize across different populations. The ANN's architecture allowed for more nuanced learning, making it particularly effective in incorporating both living and deceased patient data.

Discussion: Although tree-based models such as Random Forest and XGBoost rely on creating complex decision trees, which can lead to overfitting or reduced generalizability, ANN's continuous learning capability offered greater adaptability. ANN effectively identified intricate patterns in the data and optimized itself through backpropagation, making it more suitable for clinical settings where variables and patient characteristics can be highly variable. While the differences in AUC-ROC between ANN and other models were marginal, the ANN's adaptability and its ability to incorporate additional features and learn from synthetic data contributed to its selection. The final ANN model identified key predictors of mortality, including the STARZ score, birth weight, length of NICU stay, and urine output. In conclusion, the AKI-NMC, supported by ANN, provides a highly accurate, user-friendly tool for predicting mortality in neonates with AKI. It has the potential to enhance clinical decision-making and improve outcomes for high-risk patients in NICUs, offering a valuable advancement in the management of neonatal AKI.

Abs ID: 42

Abstract Title: Impact of Depression on Rehabilitation Outcomes in Pediatric Patients Undergoing ACL Reconstruction: A Retrospective Study

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Depression is increasingly prevalent in pediatric populations, posing significant challenges in healthcare, especially in the context of injury recovery. In patients undergoing anterior cruciate ligament (ACL) reconstruction, depression has been shown to negatively affect rehabilitation outcomes in adults, but limited research exists for pediatric patients. Depression has been reported in up to 34% of ACL injuries, a rate higher than that of the general pediatric population. This study aims to assess the impact of depression on rehabilitation outcomes in pediatric patients following ACL reconstruction. The study compares key factors such as pain, mobility, analgesic use, and physical therapy evaluations between patients who developed depression within 12 months of surgery and those who did not.

Methods: This retrospective study analyzed data from a national database, identifying pediatric patients aged 18 years or younger who underwent ACL reconstruction. Two cohorts were established: patients diagnosed with depression within 12 months post-surgery (ACL + Depression) and those without depression (ACL - Depression). Propensity score matching was employed to balance demographic and clinical variables, including age, sex, race, and musculoskeletal comorbidities. Each cohort included 326 matched patients. Outcomes such as pain levels, gait abnormalities, mobility, analgesic use, and physical therapy evaluations were measured over the 12-month postoperative period. Statistical analysis was performed using independent sample t-tests for continuous variables and z-tests for categorical variables, with significance set at $\alpha = 0.05$.

Results: The ACL + Depression group exhibited significantly poorer outcomes compared to the ACL - Depression group. Abnormalities in gait and mobility were more frequent in the depression group ($P=0.047$), with a risk ratio of 1.625 (95% CI: 1.001, 2.639). Additionally, analgesic use was higher in this group ($P=0.037$), with a risk ratio of 1.300 (95% CI: 1.015, 1.666). The ACL + Depression group also had significantly fewer physical therapy evaluations ($P=0.015$). There were no significant differences between the groups in knee pain, knee effusion, or subsequent ACL repairs.

Discussion: This study highlights the detrimental impact of depression on rehabilitation outcomes in pediatric patients after ACL reconstruction. The higher rates of mobility abnormalities, increased analgesic use, and reduced physical therapy visits suggest that depression complicates recovery. These findings align with previous research on adults, reinforcing the importance of integrating mental health support into postoperative care for pediatric patients. Early identification and management of depression could enhance rehabilitation outcomes, leading to improved long-term well-being. Future research should focus on developing targeted interventions that address both physical and mental health to support optimal recovery in pediatric patients undergoing ACL reconstruction.

ABSTRACT and POSTER RESEARCH

Abs ID: 43

Abstract Title: The Rhythms of Exercise – long term electrophysiological changes in the Basal Ganglia in Parkinson's Disease

Abstract Topic: Clinical Research

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Abstract Content:

Introduction: Addressing brain health and the challenges of neurodegenerative diseases like Parkinson's Disease (PD) is crucial for a healthier future, with exercise increasingly recognized as a vital component of neurological rehabilitation alongside essential medications. While much research has explored exercise's effects on brain signals, understanding electrophysiological changes remains incomplete. The basal ganglia circuitry, involving the subthalamic nucleus (STN), is central to PD etiology. Technological advances in measuring subcortical activity in the basal ganglia can offer deeper insights into these changes, shedding light on underlying mechanisms and enhancing rehabilitation strategies.

Methods: This pilot study included 9 PD patients who completed up to 12 biking sessions over 4 weeks. Resting state local field potentials (LFPs) from the STN were recorded from implanted electrodes before and after each session. Post-hoc analysis extracted features such as spectral analysis, beta bursts, long-range temporal correlations (LRTC), and connectivity measures like phase-slope index (PSI) and coherence between the dorsal and ventral STN. We compared pre- and post-exercise LFPs for acute effects and analyzed pre-exercise LFPs across sessions for long-term effects.

Results: LFP features of the STN showed no significant changes over an acute duration. However, over a longer period, we observed changes in the dorsolateral STN region in response to the long-term exercise intervention. In this region, spectral features such as the background activity measured by $1/f$ exponent, peak power, relative spectral power in the beta (10-20 Hz) and gamma (30-60 Hz) bands, and beta bursts changed with extended exercise. We also noted an increase in within-STN coherence with exercise in the long-term. LRTC and PSI show no changes in response to exercise.

Discussion: : These findings emphasize that extended cycling alters STN activity in PD, underscoring the value of sustained exercise in managing the disease and promoting neuroplasticity to alleviate the motor symptoms.

Abs ID: 44

Abstract Title: Transition of care in patients with End Stage Kidney Disease (ESKD) from adolescent to adult care

Abstract Topic: Clinical Research

Presenting Author: Samir Taliwal

Affiliation: Hawken Upper School

Email/ Mob: samirtaliwal@gmail.com / 3304193977

Abstract Content:

Introduction: Over 500,000 people in the United States suffer from ESKD, with more than 10,000 being adolescents (14-18). Adolescents transitioning from pediatric to adult care face challenges that can affect their treatment and outcomes. Currently, the transition process leads to disruptions in care and psychosocial challenges for patients undergoing the transition process. Our study aims to help by researching the demographics and comorbidities of patients.

Methods: We conducted a retrospective cohort study using the United States Renal Data System (USRDS). Our cohort study comprised 29,718 patients: 8,418 adolescents and 21,300 young adults. Our study only included patients from 2000 onward, aged 14-25, and from the United States.

Results: Our overall cohort consisted of 16,295 (54.8%) males and 13,423 (45.2%) females. Additionally, 18,281 (61.5%) patients were white, 9,266 (31.2%) were Black/African American, and the other 2,171 (7.4%) were either Asian, American Indian, Pacific Islander, or other. The most prevalent comorbidities were Atherosclerotic heart disease, congestive heart failure, peripheral vascular disease, a history of hypertension, and cerebrovascular disease, all having a $p < 0.0001$. The older cohort had a 3x chance of having heart disease compared to the adolescent group.

Discussion: Taking gender and racial factors into consideration is important for investigating potential patterns among the demographics of patients. Comorbidities emphasize the necessity for intervention to reduce mortality and improve medical outcomes. It is possible that the older cohort having a 3x chance for certain disease being due to a poor transition experience

ABSTRACT and POSTER RESEARCH

Abs ID: 45

Abstract Title: The Pathophysiology of Inherited Renal Cystic Diseases

Abstract Topic: Clinical Research

Presenting Author: Shaarav Ghose

Affiliation: Northeast Ohio Medical University

Email/ Mob: sghose@neomed.edu / 2163727869

Abstract Content:

Introduction: Renal cystic diseases (RCDs) can develop at any stage from utero through early adulthood, with a multitude of symptoms that can lead to adverse renal, cardiovascular, and hepatic sequelae

Methods: A variety of renal condition fall into the RCD family such as autosomal dominant polycystic kidney disease and multicystic dysplastic syndrome. Although the connection between common RCDs and their respective mutations is well known, more research is required to explain and suggest how these genetic variants can lead to the observed clinical symptoms. Additionally, research is limited on the pathophysiology of uncommon RCDs, including calyceal diverticula, Zellweger syndrome, autosomal dominant tubulointerstitial kidney disease, and more.

Results: Our research provides a comprehensive review of the genetic mechanisms underlying a range of RCDs by investigating genes such as PKD1, EYA1, PAX2, SIX1, MAG3, PEX, UMOD, and MUC1

Discussion: By doing so, we not only add to the body of literature on these conditions, but also aim to enhance diagnostic methods, treatment options, and patient counseling.

Abs ID: 46

Abstract Title: Parametrization of Deficits in Visual Search within Parkinson's Disease

Abstract Topic: Basic Science

Presenting Author: Aratrik Guha

Affiliation: Case Western Reserve University, Graduate Student

Email/ Mob: axg1334@case.edu / 3026508566

Abstract Content:

Introduction: Parkinson's Disease (PD) is a neurodegenerative disorder marked by motor and non-motor symptoms, including visual perception and attention impairments [1]. The subthalamic nucleus (STN) is central to PD pathology, with hyperexcitability linked to these symptoms [2]. Deep Brain Stimulation (DBS) of the STN treats motor symptoms but its impact on cognitive functions, particularly visual search, is unclear [3]. This study aimed to explore STN hyperexcitability's effects on visual search in PD patients compared to controls, hypothesizing diminished performance with DBS OFF [4]. Ongoing analysis examines DBS effects and aims to optimize DBS parameters for cognitive outcomes.

Methods: The study included 16 PD patients with STN-DBS, 14 age-matched controls, and 10 young healthy controls. PD patients had Unified Parkinson's Disease Rating Scale scores of 20–50 in the "off" state and normal or corrected vision. Exclusions included severe motor fluctuations, cognitive impairments, or eye disorders. Participants performed a visual search task in virtual reality with DBS ON and OFF, completing ten trials per condition. Eye movements were recorded at 45–90 Hz, and measures like search time and saccadic characteristics were processed in MATLAB with a Butterworth filter applied [5, 6].

Results: Distinct patterns emerged across groups and noise levels. Able-bodied participants outperformed others, with shorter search times and higher amplitudes. Age-matched controls ranked second, while PD groups (DBS ON and OFF) had impaired performance. Reaction and search times increased with noise, especially in PD groups, and saccades rose accordingly. DBS produced modest improvements in performance at higher noise levels, but did not restore performance to healthy control levels. These findings highlight the significant impact of PD on visual search, with some DBS benefits, particularly under challenging conditions.

Discussion: This study demonstrates how PD impairs visual search performance, with PD patients struggling compared to controls, especially in high-noise conditions. DBS offered slight improvements but did not fully restore visual search abilities. These results highlight the complex relationship between PD symptoms, DBS effects, and cognitive processes like visual attention. Future research should cluster patients based on DBS performance variability, incorporating imaging data on electrode placement, tissue activation, and neural pathways. This approach could optimize DBS parameters for cognitive outcomes and improve quality of life for PD patients.



ABSTRACT and POSTER RESEARCH

Abs ID: 47

Abstract Title: Neural Integrator Model for Gaze-Evoked Task-Specific Tremor

Abstract Topic: Clinical Research

Presenting Author: Paul Wang

Affiliation: University Hospitals / Case Western Reserve University

Email/ Mob: paul.p.wang@case.edu / 6503914367

Abstract Content:

Introduction: Use control systems modeling to demonstrate how gaze-evoked task specific head tremor can arise due to perturbation in interconnected neural integrator networks.

Methods: Three patients with gaze-evoked task-specific head tremor were identified and eye/head movements were simultaneously recorded. Tremor at primary, left, and right gaze was quantified. Control system modeling was then performed in Matlab Simulink.

Results: Control systems modeling showed that leakiness in eye neural integrator that leads to instability in the head neural integrator demonstrates exponential drifts in eye position as well as 5-7 Hz oscillations in head movements that are consistent with patient recordings.

Conclusion: Task specific tremor can emerge from perturbation in interconnected eye/head neural integrator networks.

Discussion: Task specific tremor can emerge from perturbation in interconnected eye/head neural integrator networks.



AIPNO Research Showcase

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ASSOCIATION OF INDIAN PHYSICIANS OF NORTHERN OHIO DISTINGUISHED PHYSICIAN OF THE YEAR CRITERIA

For distinguished physician award recipient to be recognized at AIPNO's Annual dinner, the nominee:

- Shall be member of AIPNO in good standing.
- He/She shall not be member of Awards and Recognition Committee for that year.
- He/She shall not be directly related to Awards and Recognition Committee for that year.
- Direct relation being spouse, sister, brother, son, daughter, parent.
- If selected He/She shall be available to receive award in person.
- The nominees shall be evaluated by point system by Awards and Recognition Committee.
- The decision of Awards and Recognition Committee will be considered final. All records of evaluation will be filed in AIPNO office.

Following point system will be used to evaluate the nominees. The physician with highest score shall be a recipient of award.

1. **Service to AIPNO** - (30 Points)
Includes positions held, physician's effectiveness of role in AIPNO.
2. **Academician**
Academic Achievement
Highest rank achieved (10 points)
Publications- Peer reviewed (5 points)
Not reviewed by peers including books, journals, editorials, articles
3. **Private Practitioner**
Academic Achievement
Highest rank achieved (15 points)
4. **Service to other community associations** - (20 points)
e.g. AAPI, FICA, community organizations. Includes positions held, physician's effectiveness of role in these organizations.
5. **Philanthropy** - (15 points)
Donation in funds
Donation of personal time
6. **Medical practice** - (10 points)
Years in practice
Quality of practice.
7. **Non-academic achievement** - (10 points)

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ASSOCIATION OF INDIAN PHYSICIANS OF NORTHERN OHIO MEDICAL STUDENT SCHOLARSHIP AWARD CRITERIA

For student scholarship award of \$1000.00 the nominee:

Final year medical student with place of residence or medical school being Northeast Ohio.

If selected He/She shall be available to receive award in person.

The nominees shall be evaluated by point system by Awards and Recognition Committee.

The decision of Awards and Recognition Committee will be considered final. All records of evaluation will be filed in AIPNO office.

Following point system will be used to evaluate the nominees. The medical student with highest score shall be a recipient of award.

Academic merit - (50 points)

GPA, SAT, MCAT, USMLE-I

Publications, research

Extra curricular achievements - (25 points)

Sports, music, drama, other hobbies and talents

Community service - (25 points)



PAST PRESIDENTS

1984 – Shashin Shah, MD	2005 – Saroj Mahalaha, MD
1985 – K.V.Gopalkrishna, MD	2006 – Arun Gupta, MD
1986 – Arvind Shah, MD	2007 – Sagarika Nayak, MD
1987 – Vinoo Mankad, MD	2008 – Sangita Patel Mehta, MD
1988 – Parshotam Gupta, MD	2009 – Satish Mahna, MD
1989 – H.P. Sundaresh, MD	2010 – Geeta Gupta, MD
1990 – Atul Mehta, MD	2011 – Sandhia Varyani, MD
1991 – Raja Shekar, MD	2012 – Elumalai Appachi, MD
1992 – Mohan Durve, MD	2013 – Beejadi Mukunda, MD
1993 – Satish Kalhan, MD	2014 – Ranjit Tamaskar, MD
1994 – Chandra Haria, MD	2015 – Umesh Yalavarthy, MD
1995 – Ashok Patil, MD	2016 – Ravi Krishnan, MD
1996 – Sudhir Mehta, MD	2017 – Hari Balaji, MD
1997 – L.C. Rao, MD	2018 – Mona Gupta – MD
1998 – Vasu Pandrangi, MD	2019 – Harbhajan Parmar, MD
1999 – Girish Mulgaokar, MD	2020 – Rupesh Raina, MD
2000 – Anjali Ambekar, MD	2021 – Dharmesh Mehta, MD
2001 – Ajit C. Shah, MD	2022 – Vinni Makin, MD
2002 – Sanjay Parikh, MD	2023 – Aasef Shaikh, MD, PhD
2003 – Saroj Pagedar, MD	2024 – Vikram Kumar, MD
2004 – Shailesh Nanavati, MD	

PAST DISTINGUISHED PHYSICIANS OF THE YEAR

1989	Satish Kalhan, MD	2007	Sanjay Parikh, MD
1990	Sharad Deodhar, MD	2008	Darshan Mahajan, MD
1991	Gita Gidwani, MD	2009	Ashok Patil, MD
1992	Elizabeth K. Balraj, MD	2010	Nandlal Varyani, MD
1993	Atul C. Mehta, MD	2011	Arun Gupta, MD
1994	Raja Shekar, MD	2012	Girish Mulgaokar, MD
1995	Mohan Bafna, MD	2013	Shaila Sundaresh, MD
1996	Mohan Durve, MD	2014	Sangita Mehta, MD
1997	K.V. Gopalkrishna, MD	2015	Beejadi Mukunda, MD
1998	H. Sundaresh, MD	2016	Neil Mehta, MD
1999	Lilian Gonsalves-Ebrahim, MD	2017	Jaya Shah, MD
2000	Laxminarayana C. Rao, MD	2018	Umesh Yalavarthy, MD
2001	Chandravadan Haria, MD	2019	Samir Kapadia, MD
2002	Sudhir Ken Mehta, MD	2020	Yatish Goyal, MD
2003	Arvindkumar Shah, MD	2021	Ravi Krishnan, MD
2004	Ajit C. Shah, MD	2022	Harbhajan Parmar, MD
2005	Prasanta K. Raj, MD	2023	Rupesh Raina, MD
2006	Vasu Pandrangi, MD	2024	Sanjay Rajagopalan, MD

PAST MEDICAL STUDENT SCHOLARSHIP RECIPIENTS

1997	Nand Kamath	2010	Rueben Nair
1998	Geetha Mohla	2011	Shishir Sharma
	Ashish Bhatia	2012	Preethi Mani
1999	Sarita Shah	2013	Pooja Shah
	Sunita Kuar Saini	2014	Mihir Shah
2000	Ashok Rajappa Asthagiri	2015	Amar Shah
	Prashant Tamaskar	2016	Madhulika Eluri
2001	Sunil M. Patel	2017	Akshay Sharma
2002	Sumit Bapna	2018	Abhinay Ramachandran
	Falguni Patel		Shree Agrawal
2003	Kris Rajan Jatana	2022	Radhika Pandit
2004	Manish D. Shah	2023	Ronith Chakraborty
2005	Asghar Ali Fakhri		Nikhita Kumar
2006	Saba Mubarka Ali		Nikhil Nair
2007	Malin Anand	2024	Jack Hu
2008	Sehtaram Chadalvada		Khyrul Khan
2009	Priya Malik		

ARTICLES OF INCORPORATION
ASSOCIATION OF INDIAN PHYSICIANS OF NORTHERN OHIO, INC.

The undersigned, a majority of whom are citizens of the United States, desiring to form a corporation not for profit under Ohio Revised Code, Section 1702.01, et. seq., So hereby certify:

Article 1 - NAME

The name of the corporation shall be the Association of Indian Physicians of Northern Ohio, herein referred to as the Corporation.

Article 2 - PLACE

The place in the State of Ohio where the principal office of said corporation shall be located in the County of Cuyahoga.

Article 3 - NONPROFIT

The Corporation is a nonprofit corporation as described in section 1702.01 of the Ohio Revised Code. The Corporation is not organized for the pecuniary profit of its Trustees, Officers or Members. The Corporation shall not declare nor distribute a dividend, and no part of its net earnings shall inure, directly or indirectly, to the benefit of any Trustee, Officer or Members, but the Corporation shall be entitled to make payments authorized under Article 7 Limitation and any balance of money or assets remaining after the full payment of Corporate obligations of all and any kind shall be solely devoted to the educational and benevolent purposes of the Corporation.

Article 4 - DURATION

The duration of the Corporation is perpetual.

Article 5 - PURPOSES

- A. The Corporation is organized for educational and charitable purposes.
- B. To bring together the physicians of Indian origin practicing in Northern Ohio in one organization, and to enhance their knowledge and mutual understanding.
- C. To assist medical students and physicians to obtain medical training in the United States.
- D. To conduct educational programs to acquaint the members with clinical, scientific and other developments in the field of medicine.
- E. To render medical services to indigent people in the community.
- F. To provide a vehicle for members to contribute to medical care and medical education in India.
- G. To provide mutual understanding and cooperation between members of this Corporation and other local and national organizations of mutual interest in the United States and India.

Article 6 - POWERS

Solely for the forgoing purposes, the Corporation shall have the following powers:

- 1) To publicize and promote the purposes of Corporation to all members of the Corporation and to the public;
- 2) To exercise all rights and powers conferred by the laws of the state of Ohio upon nonprofit corporations; and
- 3) To do such other things as are incidental to the purposes of the Corporation or necessary or desirable in order to accomplish such purposes.

Article 7 • LIMITATION

No part of the net earnings of Corporation shall inure to the benefit of or be distributed to its Members, Officers, or Trustees, but the Corporation shall be authorized and empowered to pay reasonable compensation for services rendered and to make payments and distributions in furtherance of the Purposes as set forth in Article 5, Purposes.

Article 8 - TAX EXEMPT

It is intended that the Corporation shall have the status of a corporation that is exempt from federal income taxation under Section 501(a) of the Internal Revenue Code of 1986, as amended, (the Code), and an organization described in Section 501 (c)(3) of the Code. These Articles shall be construed accordingly, and all powers and activities of the Corporation shall be limited accordingly.

Article 9 - DISSOLUTION

Upon the dissolution of the Corporation, the Board of Trustees shall, after paying or making provision for the payment of all the liabilities of the Corporation, dispose of all the assets of the Corporation exclusively for the purpose of the Corporation, in such a manner, or to such organizations organized exclusively for charitable, religious, cultural or scientific purposes as shall at the time qualify as an exempt organization or organizations under Section 501(c)(3) of the Internal Revenue Code of 1954 or the corresponding provision of any future United States Internal Revenue Law. Any of such assets not so disposed of shall be disposed of by the court of appropriate jurisdiction of the county of which the principle office of the Corporation is then located, exclusively for such purposes or to such organization or organizations as said court shall determine to be organized and operated exclusively for such purposes.

Article 10 • MEMBERS

There shall be three categories of members, voting, associate and honorary.

Article 11 - QUORUM

The quorum for any meeting of the Executive Committee or Board of Trustees shall consist of a simple majority.

Article 12 - OFFICERS

The Corporation shall have a President, President-Elect, Secretary and Treasurer and Immediate Past President. Each officer shall be elected as set forth in the Code of Regulations.

Article 13 - EXECUTIVE COMMITTEE

The Executive Committee shall be composed of the President, President-elect, Secretary, Treasurer, Immediate Past President and ten members at large. Each at large member shall be elected as set forth in the Regulations.

Article 14 - TRUSTEES

The number of Trustees may be increased or decreased from time to time in accordance with the regulations, but shall never be less than three. The Trustees shall be elected as set forth in the Regulations.

Article 15 - NON-STOCK BASIS

This corporation is formed on a non- stock basis and shall not issue shares of stock.

Article 16 - AMENDMENTS

SECTION I

These Articles of Incorporation and the Code of Regulations, or any articles or sections or any part thereof may be amended, repealed or new by-laws adopted by the affirmative vote of two-thirds of those members entitled to vote at a meeting duly called and held for that purpose. The quorum for such a meeting shall be 20% or 40 members, whichever is the larger number of members entitled to vote.

SECTION 2

Any amendment may be proposed by resolution adopted by the Executive Committee or by at least 20 active members of the Corporation. Said such proposed amendments shall then be submitted by the Executive Committee to the entire membership entitled to vote, at least 45 days prior to calling a meeting for the purpose of amending these Articles.

Article 17 PARLIAMENTARY AUTHORITY

Officers, Trustees and Members shall guide conduct business of the Foundation using Robert's Rules of Order, unless otherwise specified in these Articles or Code of Regulations.

Article 18 - INDEMNIFICATION

The Corporation shall indemnify each Trustee and Officer of the Corporation to the fullest extent permitted by the law.

CODE OF REGULATIONS ASSOCIATION OF INDIAN PHYSICIANS OF NORTHERN OHIO, INC. AN OHIO NONPROFIT CORPORATION

Article 1- CODE OF REGULATIONS

These regulations constitute the Code of Regulations adopted by the Corporation for the regulation and management of its affairs.

Article 2 - PURPOSES

This Corporation is organized and shall be operated for the purposes set forth in the Corporation's Articles of Incorporation.

Article 3 - POWERS

Solely for the foregoing purposes, the corporation shall have the powers set forth in the Corporation's Articles of Incorporation.

Article 4 - MEMBERSHIP

SECTION 1 - Voting Members

Active membership is open to all physicians of Indian origin who are practicing medicine or are retired in Northern Ohio who maintain high moral, ethical, and professional standards. They shall have the right to vote and are eligible to hold office; Active members may become Life Members by paying the dues for lifetime membership. The dues for life membership will be determined by the Board of Trustees. The Corporation shall have voting members (Active) who shall have all rights and privileges of members of the Corporation.

SECTION 2 - Associate Members

Physicians in training, dentists, medical scientists and medical students of Indian origin residing in Northern Ohio. They shall have the right to vote but are not eligible to hold office.

SECTION 3 – Honorary Members

Honorary membership may be conferred by the Board of Trustees upon physicians and spouses of deceased members, who have shown outstanding achievements and special interest in this Corporation. Honorary members will not be eligible to hold office.

Article 5 - DUES

Active and Associate members shall pay annual dues which shall be determined and reviewed as needed by the Executive Committee. Honorary members are not required to pay dues. The fiscal year shall be from January 1 through December 31. Annual dues shall be due and payable on or before January 1 of each year. If the dues or any part thereof remain unpaid after March 15 of any year, a note of delinquency will be sent. After June 1, if the dues remain unpaid, the membership and all its rights and privileges may be suspended until such dues are paid in full.

Article 6 - ADMINISTRATION AND OFFICERS

The governance of the Corporation shall be vested in the Executive Committee and Board of Trustees.

Article 7 - BOARD OF TRUSTEES**SECTION 1**

The Board of Trustees will have the ultimate authority for ensuring its fiscal welfare and financial stability; however, it will not interfere with the regular operation of the Corporation.

SECTION 2

In case of crisis, at the request of the Executive Committee, the Board will act as the mediator to resolve the dispute. The decisions of the Board of Trustees in these disputes will be binding.

SECTION 3

The Board of Trustees will be the custodian of all the assets of the Corporation and will make all decisions regarding disbursement of the funds in case of dissolution of the Corporation.

SECTION 4

The Board of Trustees will consist of nine members each being elected by the eligible voting membership. At least five Trustees of the Board will be from amongst the past presidents of the Corporation.

SECTION 5

The term of the trustees will be straddled.

SECTION 6

The term of the trustees will be limited to three years.

SECTION 7

Members of the Board of Trustees will not be members of the Executive Committee.

SECTION 8

A Chairperson of the Board will be elected by the Board amongst its members. The term of the Chairperson shall be limited to a maximum of two years. The Chairperson shall be ex-officio, nonvoting member of the Executive Committee and a voting member of the Finance Committee.

SECTION 9

The Board will act as the Trustee of the Endowment Fund of the Corporation. It will be responsible for long range planning, for constitutional and legal matters, and for safeguarding the tangible assets of the Corporation. The Board of Trustees is specifically required to pre-approve any expenditure item of more than \$5,000.

SECTION 10

The Board will meet at least once a year. A record of the minutes of the meeting will be maintained. The President of the Corporation will attend the meetings of the Board as an ex-officio, non-voting member. Quorum consists of members attending duly convened meeting, except for pre-approval of expenditure items of more than \$5,000 for which minimal of 5 affirmative votes are needed for passage of the item.

Article 8 - COMMITTEES

SECTION 1

The following shall be the Standing Committees of the Corporation. The chairpersons of these committees, with the exception of the Executive Committee, shall be appointed by the President and chosen from among the members of the Executive Committee. The remaining members of the committees may be selected from the voting and honorary membership.

1. Executive
2. By-Laws Committee
3. Membership
4. Finance
5. Medical Education and Research
6. Nominations and Elections
7. Publications and Public Relations
8. Awards and Recognition Committee
9. Endowment Fund Committee

SECTION 2

The Executive Committee shall be composed of the President, President-Elect, Secretary, Treasurer and the Immediate Past President and ten members-at-large.

SECTION 3

The Chairperson of the Special Programs and Entertainment shall be selected from the General Membership or their spouses.

SECTION 4

Nominations and Election Committee: The Nominations and Election Committee will consist of the President, the President-Elect, the Immediate Past President, one member of the Board of Trustees and one previous president. It will be chaired by the Immediate Past President.

SECTION 5

Endowment Fund Committee: This committee will consist of at least five members, two of whom will be from the Board of Trustees. The committee will be responsible for raising funds for charitable causes, and will make recommendations to the Executive Committee.

SECTION 6 – The Finance Committee shall be comprised of Chairman of the Board of Trustees, President, President-Elect, Treasurer, Past President, and 2 Members-at-Large (volunteers or elected by the Executive Committee.)

Article 9 - TERMS OF OFFICE

SECTION 1

The terms of office of the President, President-Elect and Secretary shall be for a period of one year. The term of Treasurer shall be for two years. The President may serve once only. Other officers and trustees may be re-elected.

SECTION 2

Terms of office of the members at large shall be for two years. Five members-at-large shall be elected during odd years and the other five members-at-large shall be elected during even years.

SECTION 3

In the event a member of the Executive Committee is unable to complete his/her term, a replacement will be appointed upon recommendation from the President with the approval of the Executive Committee, to complete the remaining elected term of the vacating member.

SECTION 4

In the event the office of President is vacated, the succession shall be by the President-Elect, Secretary, and Treasurer, in that order.

Article 10 - ELECTIONS

SECTION 1

Elections shall be held each year four weeks prior to the annual meeting of the general membership in the month of November or December.

SECTION 2

The Nominations and Elections Committee shall conduct the elections.

SECTION 3

Elections to all offices shall be by secret ballot. Candidates shall have the right to send their representatives to witness the counting of the ballot.

SECTION 4

The Nominations and Elections Committee shall invite nominations for various offices and trustees from the general membership by mailing the forms for nominations. The completed nomination paper, which should have the signature of the candidate signifying his/her consent, should be received by the deadline set by the Chairperson of the Nominations and Elections Committee. Applicants with incomplete or incorrect nomination forms will be given at least one week notice to correct the form prior to the nomination deadline. The Committee will submit the entire slate of candidates for vote to the eligible general membership by mail.

SECTION 5

Members of the Nominations and Elections Committee may not nominate themselves for office. They may not contest any elected position in the organization. If there is an insufficient number of nominees the Committee can submit nominations with the approval of the nominee.

Article 11- DUTIES OF OFFICERS

SECTION 1- Executive Committee

- A. The Executive Committee shall have the duties and powers as ordinarily delegated to the governing board of a non-profit incorporated association. It shall govern and direct activities of the Corporation as described in this Code.
- B. It shall fill any vacancies of the office of President-Elect, Secretary, and Treasurer and members of the Executive Committee by appointment in accordance with the provisions set forth in this Code.
- C. It shall appoint all standing committees and direct their activities.
- D. The Executive Committee shall determine the dues of the Corporation and review the dues as necessary.
- D+ Any member, officer or trustee removed from the Corporation under Article 11, Section I, paragraph E and F may appeal such a decision by the Executive Committee and ask for vote by the Board of Trustees. They may be re-instated by the approval of two-thirds majority of the membership at the General Body Meeting.
- E. It may remove by two-thirds vote any member from the rolls of the Corporation for conduct detrimental to the Corporation.
- F. It may by two-thirds vote of its members present at the meeting that has been properly called, remove any member from any elected or appointed office. If the individual concerned is a member of the Executive Committee or Board of Trustee, he/she shall not vote on such motion

SECTION 2. President

- A. The President shall be the Chief Executive Officer of the Corporation and shall perform all other duties incident to the office of President and such other duties as may be designated by the Executive Committee or Board of Trustees.
- B. He/She shall preside at all meetings of the Corporation and of the Executive Committee.
- C. He/She shall make such appointments as authorized by Code, Executive Committee or Board of Trustees.
- D. He/She shall designate all official delegates and representatives to other groups.
- E. He/She shall appoint such Special and Ad Hoc Committees as may be necessary to further the Corporation's objectives and he/she may discontinue any such committee when its purpose has been served, in consultation with the Executive Committee or Board of Trustees.
- F. The president is authorized to donate up to \$5,000.00 to non-profit groups or events without prior approval of the Board of Trustees or Executive Committee.

SECTION 3 - President-Elect

- A. The President-Elect shall perform the duties of the President in his/her absence.
- B. The President-Elect may be assigned one or more special projects and is the Endowment Chair.

SECTION 4 - Secretary

The Secretary shall keep the minutes of the meetings of the Corporation, the Executive Committee and Board of Trustees, and perform all duties assigned to him/her by the President, Executive Committee or B.O.T.

SECTION 5 - Treasurer

- A. The Treasurer shall receive and be the custodian of the funds of the Corporation, and will chair the Finance Committee.
- B. He/She shall present to the Board of Trustees a proposed budget for the ensuing fiscal year and this budget in the final form shall be approved by the Board of Trustees prior to the beginning of the fiscal year. Any single expenditure item of more than \$5,000 should be pre-approved by the Board of Trustees.
- C. He/She shall make a complete financial report at the annual business meeting of the Corporation. The financial report should be audited by a C.P.A.
- D. Life membership dues will be placed in a separate income bearing account. Finance committee is authorized to spend up to 100% of the income for operating expenses.
- E. Endowment Fund: The Corporation will establish an Endowment Fund distinct from other finances. Endowment fund will be maintained by a 3rd party administrator. Fifteen percent of the gross revenues for Endowment fund-raising events will go toward administrative costs. Up to 4% of the market value of the Endowment fund, averaged over previous 3 years, may be distributed annually for Charity and operating expenses, while continuing the growth of the corpus. Fifty percent (2% of the market value) of the distribution of the funds will be used for charitable giving, including a \$1,000.00 medical student scholarship and fifty percent (2% of the market value) of the distribution may be used for operating expenses of the corporation. The scholarship selection will fall under the Awards & Recognition Committee
- F. Funds may be added to the Endowment Fund by donations or by fund-raising events. After paying for the expenses and contribution to the charitable cause (for which the fund-raising event was held), the moneys generated from the fund-raising activity will be added to the AIPNO Endowment Fund. All unidentifiable charitable contributions to the Corporation will be deposited in the Endowment Fund account.

Article 12 - MEETINGS

SECTION 1

There shall be at least one meeting of the entire membership each year at a place and date designated by the Executive Committee.

SECTION 2

The time and place of all meetings shall be decided by the Executive Committee. The notice of the time and place of all meetings, except those of the Executive Committee or Board of Trustees shall be mailed to all officers and members at least 45 days prior to such meetings. Special meetings may be called by the President, by majority of the Executive Committee or Board of Trustees, or by 10% or 25 members, whichever is the larger.

SECTION 3

The Executive Committee shall meet once a month or as needed to conduct its business.

SECTION 4

If a member of the Executive Committee fails to attend three consecutive meetings of the Executive Committee without a proper excuse, he/she may be dismissed from the Executive Committee by two-thirds of its members.

SECTION 5

The quorum for any meeting of the Executive Committee or Board of Trustees shall consist of a simple majority.

SECTION 6

Parliamentary Procedure - In the absence of any provision in the Code of the Corporation, Board of Trustees, Executive Committee, and all Committee Members shall be guided by the Parliamentary Rules as used and contained in the current edition of the Roberts "Rules of Order".

Article 13 - LIABILITY OF MEMBERS

No member of the Corporation shall be personally liable to the creditors of the Corporation for any liability or indebtedness, and any and all creditors shall look only to the assets of the Corporation.

Article 14 - AMENDMENTS

SECTION 1

This Code of Regulations, or any articles or sections or any part thereof may be amended, repealed or new Code adopted by the affirmative vote of two-thirds of those members entitled to vote at a meeting duly called and held for that purpose. The quorum for such a meeting shall be 20% or 40 members, whichever is the larger number of members entitled to vote.

MILESTONES 2024

WOMEN'S WING MEETING February 25, 2024

The inaugural meeting of the Women's Wing was held, setting the stage for future initiatives and discussions.

GENERAL BODY MEETING AND FINANCE

March 2024 AIPNO members gathered to discuss organizational matters, featuring a great talk from the Wall Street Alliance group for Physicians.

FIRST CME, KARAOKE, AND SAREE DAY

April 13, 2024 This annual event at Saffron Patch West attracted many budding singers showcasing their talents, combining education and entertainment.

THE ART OF LIVING April 14, 2024 A workshop focusing on traditional Indian yoga methods, including breathing techniques and meditation, promoting wellness among participants.

AIPNO'S ANNUAL TENNIS TOURNAMENT

May 11, 2024 The H.P. Sundaresh tournament at Stonewater Golf Club was a great success, organized by Dr. Arun Gupta.

WOMEN'S WING MEETING AT BOWLING FOR HOSPICE AWARENESS June 9, 2024

We celebrated the Hospice of O'Neill Healthcare - Moments of Joy program, aimed at bringing joy to hospice patients during challenging times.

INTERNATIONAL YOGA DAY June 22, 2024

AIPNO celebrated this day with various activities promoting yoga and wellness.

SECOND CME AND FINANCE LECTURES

July 20, 2024 CME by Dr. Uli featured insightful talks on GI Endocrinology, enhancing our medical community's knowledge.

INDIAN INDEPENDENCE DAY CELEBRATIONS WITH IFUSA August 18, 2024

AIPNO President Dr. Vikram Kumar delivered an inspiring speech about AIPNO's impact over the past 40 years during this vibrant celebration.

AIPNO'S FAMILY PICNIC August 25, 2024

The picnic was filled with joy, featuring games, music, and bingo, creating lasting memories for families.

HEALTH FAIR WITH IFUSA September 2024

AIPNO physicians hosted a community health fair at the India Festival, USA's 15th Annual Cultural Festival at Broadview Heights High School.

MEDICAL YATRA 25TH CELEBRATION

September 2024 Attended by Yattris and AIPNO members, this event hosted by Mr. Ramesh Shah highlighted the history of charity work and future goals, including donations like glasses for the blind and efforts to prevent cervical cancer.

RUN FOR SEWA September 22, 2024

AIPNO proudly supported this annual fundraiser at Avon Lake Metropark, raising funds for SEWA International, with encouragement from the Avon Lake Mayor.

AIPNO YOUTH PHILANTHROPY Our young members raised money for charity, demonstrating the spirit of giving and community service.

AIPNO SUMMER RESEARCH PROGRAM FOR UNDERPRIVILEGED AND MINORITY CHILDREN

June 10 to August 5, 2024 This program provided valuable research opportunities for youth.

AIPNO YOUTH INITIATIVE PROGRAM FOR HIGH SCHOOL AND COLLEGE STUDENTS

Focused on empowering the next generation through leadership and community involvement.

AIPNO'S INITIATIVE FOR PROVIDING FOOD TO SHELTERS Aimed at addressing food insecurity in our community.

AIPNO WOMEN'S INITIATIVE Focused on empowering leadership and supporting hospice care initiatives.

AIPNO GLOBAL This initiative took more structure, recognizing individuals contributing to its success with awards.

WEBSITE UPDATE AND TECH COMMITTEE

Significant updates were made to enhance online engagement and resource access.

CME-3 AND RESEARCH SHOWCASE October 26, 2024 With about sixty presentations from across Greater Cleveland, winners in several categories received prizes.

ANNUAL GALA This year's gala featured chief guest Dr. Cliff Megerian, CEO of University Hospitals, and entrepreneur/philanthropist Mr. Monte Ahuja. Keynote speakers included Dr. Neil Smith (CEO Fairview Hospital), Dr. Michael Forbes (Research Keynote), and Dr. Lina Mehta (Educational Keynote), along with guest speaker Dr. John Langell.

These milestones reflect our commitment to community, education, and support for one another as we continue to grow and make a difference in 2024.

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Anesthesiology, Critical Care Medicine

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Oral & Maxillofacial Surgery

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Internal Medicine

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Pediatrics

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Interventional Cardiology

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Muskuloskeletal Radiology

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OB/GYN

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Urology

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*** Krishnamurthi, Smitha**

*** Krishnamurthi, Venkatesh, MD**

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Transplantation Surgery

*** Krishnan, Nagureddi, MD**

Ophthalmology

*** Krishnan, Ravi, MD**

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Internal Medicine

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Cardiovascular and Thoracic Surgery

Kumar, Aryavarta, MD, PhD

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Radiation Oncology

*** Kumar, Dheeraj, MD**

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Internal Medicine/Hospitalist/Infectious Disease

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Gastroenterology

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Internal Medicine

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Internal Medicine

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Optometry

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Neurology

*** Kumar, Unni P.K., MD**

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Gastroenterology

*** Kumar, Vikram, MD**

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Endocrinology

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General Medicine

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Epilepsy

Lalwani, Vidya, MD

Internal Medicine – Retired

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Internal Medicine

*** Lele, Shreeniwas, MD**

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Pathology

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Cardiology, Internal Medicine

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Neurology

*** Mahajan, Neeraj, MD**

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Hematology, Oncology

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Psychiatry

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Radiology

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Gastroenterology

Mahajan-Khanna, Niyati, MD

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Pediatrics, Primary Care

*** Mahalaha, Saroj, MD**

OB/GYN – Retired

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Orthopedic Surgery

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Pulmonary

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*** Makkar, Vinit, MD**
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Hematology / Oncology

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Maternal Fetal Medicine

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ENT / Facial Plastic Surgery

*** Mallik, Gagan, MD**
ENT – Retired

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Anesthesia

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Cardiology

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Orthopedics

*** Marshall, Cyril, MD**
Orthopedics – Retired

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Ophthalmology

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Pediatric Cardiology – Retired

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Cardiology

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Psychiatry

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Internal Medicine

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Anesthesia

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Pathology – Retired

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Neurology

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Cardiovascular Med./Intervention

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Internal Medicine

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Pediatrics – Retired

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Surgery, General

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Neurology

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Cardiology

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Cleveland, OH 44111
Internal Medicine

*** Padiyar, Aparna, MD**
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Nephrology

*** Pagedar, Saroj, MD**
Pediatrics – Retired

*** Pahlajani, Geetu MD**
Women’s Health (MetroHealth)

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Surgery, Orthopedic – Retired

*** Pallaki, Muralidhar, MD**
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Geriatrics

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Surgery, Plastic

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Internal Medicine – Retired

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Nephrology

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Neurology, Pediatric

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Internal Medicine

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Nephrology

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Endocrinology

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Radiation Oncology – Retired

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Radiology

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Radiation Oncology

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Cardiology/Internal Medicine

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Neurology

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Anesthesia

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Radiology

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Pathology

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Breast Surgical Oncology

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Internal Medicine – Retired

*** Patel, Narendra, MD**
Anesthesia

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Occupational Medicine

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Surgery, General

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Internal Medicine

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Hematology/Oncology

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Nephrology

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Anesthesia

*** Raj, Prasanta Kumar, MD**
Surgery, General – Retired

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Cardiology

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Cardiology – Retired

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Pathology

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Anesthesiology

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Psychiatry-Retired

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Pediatrics

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Pediatrics

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Internal Medicine

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Family Medicine

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Psychiatry

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Pediatric/ICU

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Infectious Disease

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Gastroenterology

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Cardiology

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ENT

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Psychiatry

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Anesthesia

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Physical Therapy

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Emergency Medicine

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Cardiology

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Cleveland, Ohio 44195
Apheresis

* **Subramanian, Thyagarajan, MD**
9500 Euclid Avenue, S90 Office: 216-444-4270
Cleveland, OH 44195
Neurology

* **Sundaresh, Shailaja, MD**
OB/GYN – Retired

* **Suresh, Keelapandal R., MD**
21851 Center Ridge Rd #3309 Office: 440-333-8322
Rocky River, OH 44116
Nephrology

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Suri, Anu, MD
33100 Cleveland Clinic Blvd. AVW3-2. . Office: 440-695-4330
Avon, OH 44011
Pulmonology and Critical Care Medicine

* **Swamy, Kumar, MD**
Allergy – Retired

* **Swarup, Namita, MD**
2500 Metrohealth Drive Office: 216-778-2687
Cleveland, OH 44109
Pediatrics

* **Tamaskar, Ila R., MD**
6525 Powers Blvd Office:440-743-4747
Parma, OH 44129
Medical Oncology

* **Tamaskar, Mandakini, MD**
Anesthesia

* **Tamaskar, Ranjit B., MD**
36100 Euclid Ave. Suite 270 Office: 440-946-8300
Willoughby, OH 44094
Internal Medicine

* **Tamasker, Shobha, MD**
OB/GYN – Retired

* **Tandra, Brahmaiah, MD**
8577 E. Market St. Office: 330-856-6663
Howland, OH 44484
Pediatric Psychiatry

* **Tandra, Usharani, MD**
18697 Bagley Rd. Office: 440-816-8678
Middleburgh Hts., OH 44130
Physical Medicine & Rehabilitation

* **Thaker, Niranjana Shah, MD**
OB/GYN – Retired

* **Thakore, Nimish, MD**

* **Thakore, Yuan, MD**

* **Thakur, Swati, MD**
33300 Cleveland Clinic Blvd Office: 216-372-4493
Avon, OH 44011
Hospital Medicine

* **Thota, Prasanthi, MD**
9500 Euclid Ave./A30
Cleveland, Ohio 44195
Gastroenterology

Tirounilacandin, Pazhaniaandi, MD
234 N. Chestnut St. Office: 440-576-8933
Jefferson, OH 44047
ACMC, Family Medicine

* **Tirumani, Harika, MD**
13207 Ravenna Rd. Office: 440-285-6000
Chardon, Ohio 44024
Radiology

Tirumani, Sree Harsha, MD
11100 Euclid Ave Office: 216-844-5351
Cleveland, Ohio 44106
Radiology

* **Turakhia, Ashwin, MD**
12301 Snow Road. Office: 216-362-2000
Parma, OH 44130
Internal Medicine

* **Udayashankar, S.V., MD**
Anesthesia – Retired

* **Ujla, Dilip, MD**
Family Practice

* **Ujla, Rekha**
1468 E. 55th Street. Office: 216-881-2000
Cleveland, OH 44103
Nurse Practitioner

Uli, Naveen, MD
215 West Bowery St., Suite 6400 Office: 330-543-3276
Akron, Ohio 44308
Pediatric Endocrinology

* **Umopathy, Kandasamy, MD**
25 Tarbell Avenue Office: 440-439-7766
Bedford, OH 44146
Internal Medicine

Vaidya, Punit, MD
10701 East Blvd., 116A(W) Office: 216-791-3800 ext. 63514
Cleveland, Ohio 44106
Psychiatry

* **Vaidya, Vijaykumar, MD**
2351 E. 22nd St Office: 216-861-6200
Cleveland, OH 44115
Surgery

* **Vallabhaneni, Raj, MD**
124 Liberty St. Office: 440-321-9725
Painesville, OH 44077
Cardiology

* **Vallabhaneni, Rajani, MD**
124 Liberty St. Office: 440-352-4956
Painesville, OH 44077
Family Medicine

* **Varma, Kalpana, MD**
12300 McCracken Rd Office: 216-587-8200
Garfield Heights, OH 44125
Anesthesia

* **Varyani, Sandhia, MD**
UH Ahuja Medical Center
1000 Auburn Drive, Suite 34 Office: 216-285-4130
Beachwood, OH 44122
OB/GYN

* **Vasavada, Sandip, MD**
9500 Euclid Avenue A100 Office: 216-445-0296
Cleveland, OH 44195
Urology

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*** Venkat, Vasuki, MD**
27600 Chagrin Blvd. Suite 300 Office: 216-347-5795
Woodmere, OH 44122
Nephrology

Venkateshaiah, Lokesh, MD
224 W. Exchange St., Ste. 380 Office: 330-344-6686
Akron, Ohio 44302
Pulmonary & Critical Care Medicine

Venktram, Malini

Venkataraman, Pushpalath, PA
9220 Mentor Ave. Office: 440-354-99224
Mentor, Ohio 44060
Psychiatry

*** Venna, Prabhakar, MD**
Cleveland VAMC 11A(W) Office: 440-562-0762
10701 East Blvd
Cleveland, OH 44109-1709
Anesthesiology

*** Vibhakar, Nilla, MD**
Pediatrics

*** Vibhakar, Shardul, MD**
Radiology, Diagnostic

*** Vuppala, Murty, MD**
6363 York Pearl Rd #103 Office: 440-888-1500
Cleveland, OH 44130
Pediatrics

Vyas, Chinmay, MD
600 W. 3rd Street Office: 419-522-6191
Mansfield, OH 44096
Family Medicine

Wankhade, Sharad, MD
Clinical Research
7418 Royal Portbush Drive Office: 330-321-7677
Solon, Ohio
Clinical Research

*** Wyckoff, Neeti, MD**
3043 Sanitarium Rd #3 Office: (330) 253-4931
Akron, OH 44312
Pediatrics

*** Yadavelli, Gopal, MD**
11100 Euclid Ave Office: 216-844-2562
Cleveland, OH 44106
Infectious Disease/Internal Medicine

*** Yalavarthy, Umesh, MD**
25301 Euclid Ave. Office: 216.261.6263
Euclid, OH 44117
Nephrology

Yerneni, Himabindu, MD
University Hospitals Medical Ctr Office: 216-844-5525
Cleveland, Ohio 44106
Transplant Nephrology

*** Zanotti, Salena, MD**
36901 American Way Suite A. Office: 440-930-6200
Avon, OH 44011
OB/GYN

AFFILIATES

Buttar, Manjit, RN
18901 Lakeshore Blvd. Office: 216-406-5491

Makin, Charles
365 West Kilbridge Drive Office: 857-259-1442
Highland Heights, Ohio

Shah, Dhavalkumar
35405 Spatterdock Lane 216-651-5700
Solon, Ohio 44139
Pharmacist

Venuthula, Ganga Bhavani
9110 Mentor Ave. Office: 440-701-8030
Mentor, Ohio 44060
Veterinarian

ASSOCIATE TRAINEES

Nayan Agarwal, MD
. Office: 443-691-1888
Internal Medicine

Neil Akash Rana
9500 Euclid Ave. Office: 216-368-2000
Cleveland, Ohio 44195
Student

Nikita Akkala
Medical Student (Pediatrics)

Kanika Arora, MD
9500 Euclid Ave.

Pranay Arora
Medical Student

Cleveland, Ohio 44195
Pathology

Kriti Bhavana, MD
9500 Euclid Ave. Office: 216-906-8941
Cleveland, Ohio 44195
Pediatric Neurology

Saif Borgan, MD
9500 Euclid Ave. 216-212-3985
Cleveland, Ohio 44195
Endocrinology

Raghuram Chava, MD
MetroHealth
2500 Metrohealth Drive Office: 216-778-2005
Cleveland, Ohio 44109
Cardiology

John Das, MD
1900 23rd St.
Cuyahoga Falls, OH 44223
Family Medicine

Sanjana Datla, MD
Internal Medicine

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Neel Fotedar
University Hospitals of Cleveland
11100 Euclid Ave. Office: 216-844-3100
Cleveland, Ohio 44103
Neurology/Epilepsy

Karishma Gupta, MD
11100 Euclid Ave.
Cleveland, Ohio 44106

Shanaz Hossain
9500 Euclid Ave. Office: 216-938-3615
Cleveland, Ohio 4195
General Surgery

Muhammad Islam
Medical Student

Jayachidambaram Ambalayanan, MD
9500 Euclid Ave., F20 Office: 216-444-6568
Cleveland, Ohio 441195
Endocrinology

Sharan Jhaveri, MD
9500 Euclid Ave.
Cleveland, Ohio 44106
Internal Medicine

Abel Joseph, MD
9500 Euclid Ave./NA-23
Cleveland, Ohio 4195
Internal Medicine

Sashi Kant, MD
University Hospital
Internal Medicine

Alimitha Kodali
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Cleveland, Ohio 44195
Endocrinology

Saksha Krishnan

Nikhita Kumar
Medical student

Meera Kumari
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Cleveland, Ohio 44195
Psychiatry

Saloni Lad
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Cleveland, Ohio 44195
Family Medicine

Kavana Lokesk
Student

Zaem Lone
9500 Euclid Ave.
Cleveland, Ohio 44195
Urology

Michelle Lundholm, MD
9500 Euclid Ave.
Cleveland, Ohio 44195
Endocrinology

Uma Mahajan
9501 Euclid Ave.
Cleveland, Ohio 44106
Medical Student

Austin Makadia
2351 E. 22nd St.
Cleveland, Ohio 44115
Internal Medicine

Pranaya Mallu

Mohan Muvvala
27155 Chardon Rd., STE. 201 Office: 440-585-6553
Ruchmond, Hts., Ohio 44143
Family Medicine

Davinder S. Pandher, MD
Medicine

Maeve Pascoe
9501 Euclid Ave.
Cleveland, Ohio 44195
Medical Student

Daxesh Patel, DDS
795 Lexington Springhill Rd. Office: 419-5222-1386
Ontario
General Dentistry

Mihir S. Patel
9500 Euclid Ave.
Cleveland, Ohio 44195
Internal Medicine

Sanjul Patel, MD
2351 E22nd St.
Cleveland, Ohio 44115
Internal Medicine

Zil Patel
11100 Euclid Ave. Office: 216-844-7330
Cleveland, Ohio 44106
Anesthesiology

Karina Pedersen
Medical Student

Sadhvika Ramji
9500 Euclid Ave.
Cleveland, Ohio 44195
Thoracic Surgery

Priya Sasankan
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Cleveland, Ohio 44195
Internal Medicine

Parth Shah
Aultman Hospital
2600 6th St. SW
Canton, Ohio 44710
Internal Medicine

Paras Shah
Anesthesiology

Ronak Jagdeep Shah, MD
18101 Lorain Ave.....Office: 216-476-7369
Cleveland, Ohio 44111
Internal Medicine

Aiishwarya Sharma, DO
Family Medicine

Achintya Singh
9500 Euclid Ave..... Office: 216-310-7323
Cleveland, Ohio 44195
Medicine

Amandeep Singh
East Liverpool City Hospital
425 W 5th St.
East Liverpool, Ohio 443920
Internal Medicine

Karunika Vadlimudi
Pediatric Internal Medicine

Alexander Wang
11100 Euclid Ave.
Cleveland, Ohio 44106

Thapat Wannarong
11100 Euclid, Ave.
Cleveland, Ohio 44106
Neurology Cleveland, Ohio 44195
Medicine

Member list - Current 2024

Thank You
Swati and Sudarshan Sathe

for your support of
the philanthropy by
North Ohio physicians

From the AIPNO leadership

LISTING OF PHYSICIANS BY SPECIALTY

Allergy

Chouksey, Akhilesh MD
Durve, Mohan MD
Swamy, Kumar, MD

Apheresis

Srivastava, Swati, MD

Anesthesiology

Bhavani, Sekar, MD
Khanna, Ashish, MD
Ragagopalan, Sudha, MD
Ramachandran,
Mangalakaralpurud, MD
Shiwalkar, Nimisha, MD
Sidhu, Tejbir, MD
Venna, Prabhakar, MD

Cardiology

Ahluwalia, Charanjit, MD
Bhakta, Shyam, MD
Bolla, Ravisankar, MD
Brahmanandam, Maddikunta, MD
Brahmbhatt, Ramesh, MD
Desai, Mihir, MD
Dhingra, Rahul MD
Ginwalla, Mahazarin, MD
Jain, Mukesh, MD
Jayaswal, Bijay, MD
Kapadia, Samir, MD
Kondapaneni, Meera, MD
Madan Mohan, Sri, MD
Maroo, Praful V., MD
Mehta, Sudhir Ken, MD
Mistry, Vijay, MD
Mitra, Kunal, MD
Osman, Mohammed Najeeb, MD
Patel, Chandrakant, MD
Patel, Chetan, MD
Rajagopalan, Sanjay, MD
Raj Verma, Beni, MD
Rajan, Semur, MD, Retired
Rakhit, Ashis K., MD
Rashid, Imran, MD
Sequeira, Thomas Mark, MD
Sharma, Trilok C., MD
Vallabhaneni, Raj, MD

Cardiac Electrophysiology

Iyer, Inderisha, MD

Cardiology, Interventional

Bhakta, Shyam, MD
Chawla, Rakesh, MD
Kondapaneni, Meera, MD
Nair, Ravi, MD

Cardiology Pediatric

Mehta, Sudhir Ken, MD
Patel, Chandrakant, MD

Cardiovascular Surgery

Kumar, Akshay, MD
Sekhon, Baldev, MD

Pediatric Dentistry

Chhibber, Surabhi, DDS

Cardiothoracic Surgery

Gill, Inderjit MD
Sekhon, Baldev MD

Chiropractic

Dahodwala, Ty, DC
Clinical Research
Wankhade, Sharad, MD

Critical Care Medicine

Kaur, Sunjeet, MD
Khanna, Ashish, MD
Suri, Anu, MD
Venkateshaiah, Lokesh, MD

Dentistry

Gupta, Nisha DDS
Jagannathan, Ramya, DDS
Kanani, Kunal, DDS
Kanani, Megha, DDS

Dermatology

Diwan, Renuka MD
Khandekar, Prakash MD

Diabetes

Rao, Pratibha, MD

Diabetes (Educator)

Sreshta, Michael, RPh, MS, CDE

Emergency Medicine

Dhillon, Jagprit MD
Gupta, Adarsh, MD
Patel, Vijaykant, MD
Paul, Randhir, MD

Endocrinology

Bindra, Sanjit, MD

Kashyap, Sangeeta, MD

Kumar, Vikram, MD
Mehta, Adi, MD
Patel, Amita, MD
Sood, Pratima, MD
Uli, Naveen, MD (Pediatric)

ENT

Haria, Chandra, MD
Malhotra, Ritu, MD
Mallik, Gagan, MD
Mehta, Govind, MD

Epilepsy

Lachwani, Deepak MD

Family Practice

Ahuja, Payal, MD
Apte, Manohar, MD
Desai, Dipali, MD
Dravid, Sheela, MD
Gatha, Harilal MD
Julka, Neeraj, MD
Reddy-Cinireddi, Laxman, MD
Sehgal, Bindu, MD
Tirounilacandin, Pazhaniaandi, MD
Ujla, Dilip, MD
Vallabhaneni, Rajani, MD
Vyas, Chinmay, MD

Gastroenterology

Bandi, Ram, MD
Chowdhry, Saleem, MD
Dalal, Bankim, MD
Khambatta, Parvez, MD

Kumar, Dr. Namrata
Kumar, Unni P.K., MD
Mahajan, Subhash, MD
Nair, Siva S., MD
Natesan, Arumugam, MD
Parikh, Keyur, MD
Pola, Laxshimaiya, MD
Sanaka, Madhusudhan, MD
Thota, Prasanthi, MD

General Medicine

Kundu, Sunanda MD

Geriatrics

Arora, P. Lal, MD
Bhavnani, Sanjeev, MD
Gudla, Jyothi, MD
Gupta, Mona, MD
Jethva, Natwar, MD
Meyyazhagan, Swarnalatha, MD
Pallaki, Muralidhar, MD
Saxena, Saket, MD

Hematology/Oncology

Bhatt, Mukesh, MD
Kantharaj, Belagodu, MD
Mahajan, Neeraj, MD
Makkar, Vinit, MD
Mendpara, Suresh, MD
Prithviraj, Panju, MD

Hospitalist

Chimalakonda, Ravi, MD
Chowdhry, Shalini Arora, MD
Kumar, Dheeraj, MD
Saraiya, Jayshree, MD
Saraiya, Rajesh, MD
Thakur, Swati, MD

Infectious Disease

Gopalakrishna, K.V. MD
Sahni, Rajiv, MD
Shekar, Raja MD
Sheth, Nyati, MD
Yadavelli, Gopal MD

Internal Medicine

Agarwal, Rajesh, MD
Ahuja, Kanika, MD
Bafna, Mohan, MD
Baishnab, Radha, MD
Balaji, Harigopal, MD
Bhaji, Alok, MD
Bhandiwad, Abhishek, MD
Bhatia, Mudia, MD
Bhalla, Rakesh, MD
Bhimani, Jayantilal, MD
Chand, Prakash, MD
Chowdhry, Shalini Arora, MD
Dasari, Narayana, MD
Dhillon, Harmohinder, MD
Gopal, Navenn, MD
Goswami, Atul, MD
Gudla, Jyothi, MD
Gupta, Arun, MD
Gupta, Geeta, MD
Jain, Rashmi, MD
Jethva, Natwar, MD
Jhala, Nilamba, MD
Juwarkar, Niharika, MD
Kalepu, Sudheera, MD

Kaneria, Samir, MD
Kansal, Sunil, MD
Kapoor, Gopal, MD
Karimpil, Joseph, MD
Khatrri, Saloni, MD
Kotak, Sandeep, MD
Kothari, Samir, MD
Krishnan, Ravi, MD
Kumar, Chanda, MD
Kumar, Dheeraj, MD
Kumar, Praveer, MD
Kumar, Prynka, MD
Lalwani, Vidya, MD
Lele, Anju S., MD
Lele, Shreenivas, MD
Madan Mohan, Sri, MD
Majmudar, Himanshu, MD
Mehta, Dharmesh, MD
Mehta, Neil, MD
Mehta, Rajendra, MD
Mehta, Usha, MD
Mistry, Darshan, MD
Mistry, Niraj, MD
Mukunda, Beejadi N., MD
Nakave, Abhijeet, MD
Natesan, Corattur, MD
Nayak, Hemanta MD
Oza, Sudhir, MD
Pandit, Mukul, MD
Pandit, Vidya, MD
Pania, Vimla D., MD
Parmar, Harbhajan, MD
Parmar, Rajvinder, MD
Patel, Chetan, MD
Patel, Mohan, MD
Paul, Bobby, MD
Pillai, Latha, MD
Punjabi, Eshwar B., MD
Rao, Neelima, MD
Reddy, Madhu, MD
Reddy, S. Sethu, MD
Roy, Somnath D., MD
Sahni, Priyanka, MD
Saraiya, Jayshree, MD
Saraiya, Rajesh, MD
Sarasaya, Sparsha, MD
Shah, Dipti, MD
Shah, Radha, CNP
Sharma, Rajesh MD
Shivadas, Anita MD
Singh, Chandra V., MD
Somasundaram, Mey, MD
Tamaskar, Ranjit B., MD
Turakhia, Ashwin, MD
Umapathy, Kandasamy, MD
Yadavelli, Gopal, MD

Maternal Fetal Medicine

Malhotra, Tani, MD

Neonatology

Achan Fati, Babu MD
Holla, Ira, MD

Nephrology

Dasari, Jayaprakash, MD
Nadkarni, Vivek, MD
Padiyar, Aparna, MD
Pannu, Kulbir S., MD
Patel, Amit, MD
Rahman, Maboob, MD

LISTING OF PHYSICIANS BY SPECIALTY (continued)

Nephrology (continued)

Raina, Rupesh, MD
Rao, Akhilesh, MD
Sandhu, Satnam S., MD
Sehgal, Ashwini, MD
Suresh, Keelapandal R., MD
Venkat, Vasuki, MD
Yalavarthy, Umesh, MD
Yerneni, Himabindu, MD

Neurology

Chandar, Krishan, MBBS, MRCP (London)
Deogaonkar, Milind, MD
Kuruvilla, John, MD
Kumar, Suresh, MD
Mahajan, Darshan, MD
Muthusamy, Preetha, MD
Nayak, Sagarika, MD
Parikh, Sanjay MD
Patel, Dhruv, MD
Shaikh, Aasef, MD
Shaikh, Aasef, MD, PhD
Sivaraman, Indu, MD
Subramanian, Thyagarajan, MD

Neurology, Pediatric

Parikh, Sanjay MD
Sivaraman, Indu, MD

Neurosurgery

Kasliwal, Manish, MD
Sawhny, Bhupinder, MD
Kasliwal, Manish, MD
Sawhny, Bhupinder, MD

Neurotology

Shaikh, Aasef, MD

Nurse Practitioner

Ujla, Rekha

OB/GYN

Arora, Urmila, MD
Berry, Prynka, MD
Das, Jagannath, MD
Gidwani, Gita, MD
Jhaveri, Nalini, MD
Kothari, Ajeet, MD
Kothari, Purnima, MD
Mahalaha, Saroj, MD
Mehta, Gita, MD
Parikh, Kamal, MD
Parikh, Vibha MD
Patel, Urmila, MD
Shinde, Sharad MD
Sundares, Shailaja, MD
Tamasker, Shobha, MD
Thaker, Niranjana Shah, MD
Varyani, Sandhia, MD
Zanotti, Salena, MD

Occupational Medicine

Mahna, Satish, MD
Patel, Tarulata, MD
Mahna, Satish, MD

Oncology

Ahluwalia, Manmeet MD
Gupta, Mona MD
Patel, Mita, MD
Tamaskar, Ila R., MD

Ophthalmology

Bafna, Shamik, MD
Ghasia, Fatema, MD
Kapadia, Mansavee MD
Krishnan, Nagureddi MD
Mehta Patel, Sangita MD
Singh, Annapurna
Singh, Arun D. MD

Optometry

Chatterjee, Arup Kumar OD
Kumar, Sapna, OD

Orthodontist

Chhibber, Aditya, DDS

Orthopedics

Marshall, Brian, DO
Marshall, Cyril, MD

Orthopedic Surgery

Maheshwer, C., MD
Palekar, Sanjay, MD

Pain Management

Goomber, Roger, MD
Gupta, Parshotam, MD
Sogal, Ramesh, MD

Pathology

Chaari (Rao), Rema, MD
Godbole, Medha S., MD
Gogate, Prema, MD
Madan Mohan, Gayatri, MD
Mehta, Madhu, MD
Murthy, Prabha, MD
Patel, Minal, MD
Raju, Rajeeva, MD

Pathology, Forensic

Murthy, P.S.S. MD

Pediatrics

Appachi, Elumalai MD
Appachi, Mala, MD
Bhardwaj, Anita, MD
Dipali, Aravind MD
Gopal, Lauren, MD
Jain, Rajneesh, MD
Kalhan, Satish, MD
Khadilkar, Vidula, MD
Kherani, Kausar, MD
Mahajan-Khanna, Niyati, MD
Nanavati, Shailesh, MD
Pagedar, Saroj, MD
Rao, Shakuntala, MD
Rao, Sheela M., MD
Shah, Jaya, MD
Shah, Shashin, MD
Sitabkhan, Rayeka, MD
Swarup, Namita, MD
Vibhakar, Nilla, MD
Vuppala, Murty, MD
Wyckoff, Neeti, MD

Pediatric Anesthesiology

Adur, Anjali P. MD

Pediatric ICU

Roy, Aparna, MD

Pharmaceutical

Chawla, Ash, MS, RPh

Physical Medicine / Rehabilitation

Kumar, Sanjay, DO
Shah, Arunika N., MD
Shah, Kalyani, MD
Tandra, Usharani, MD

Physical Therapy

Shah, Surekha

Plastic Surgery, Facial

Malhotra, Ritu, MD
Pandurangi, Vasu, MD

Podiatry

Mathur, Monica, DPM

Primary Care

Shroff, Palak, MD

Psychiatry

Adhvaryu, Hareendra G. MD
Adityanjee, A MD
Bains, Shivnaveen, MD
(Child & Adolescent)
Cupala, Homai MD
Ebrahim, Lilian MD
Hegde, Shura MD
Jha, Anupam, MD
Kumari, Meera, MD
Mahajan, Nitika, MD
Mude, Jagdish L. MD
Rakesh Ranjan, MD
Rao, Kancherla S. MD
Rohira, Lalsingh MD
Shah, Bharat, MD
Tandra, Brahmaiah MD
(Pediatric)
Vaidya, Punit, MD
Venkataraman, Pushpalath, PA

Pulmonary Medicine

Dacha, Harinathrao, MD
Gosain, Sudhir, MD
Khandelwal, Anand, MD
Mehta, Atul, MD
Panchagnula, Sastry, MD
Rao, L.C., MD
Suri, Anu, MD

Radiology, Oncology

Ambekar, Anjali, MD
Kumar, Aryavarta, MD, PhD
Patel, Ashwin, MD
Patel, Chandralekha, MD
Patel, Mita, MD (Breast Surgical)
Sharan, Vishwa MD

Radiology

Batchu, Chandra, MD
Bhardwaj, Ajay, MD
Gurajala, Ram, MD
Jain, Rachana MD
Jain, Vikas, MD
Kanvinde, Mangesh MD
Kosaraju, Vijaya, MD
(Muskuloskelatal)

Mahajan, Paresh, MD
Patel, Bhupendra, MD
Patel, Deodutt MD
Patel, Kirit MD
Patel, Malaykumar, MD
Ram, Dasarathi MD
Ramana, C.V. MD
Tirumani, Harika, MD
Tirumani, Sree Harasha, MD
Vibhakar, Shardul MD

Radiology, Interventional

Gadani, Sameer, MD

Rheumatology

Hampole, Vagesh MD

Sleep Medicine

Ahluwalia, Harneet, MD
Bhat, Aparna, MD
Shah, Vaishal, MD

Surgery, Cardiothoracic

Apte, Susan, MD
Gill, Inderjit, MD
Sekhon, Baldev, MD

Surgery, General

Augustin, Toms, MD
Chari, Vedantum Ramanuja, MD
Deshpande, Krishna, MD
Kalepu, Anand Rao, MD
Kampani, Shanta, MD
Narichania, Dilip, MD
Patel, Vasant, MD
Raj, Prasanta Kumar, MD,
Retired
Vaidya, Vijaykumar, MD

Surgery, Oral

Khanuja, Ashoo, MD

Surgery, Spine

Berry, Chirag, MD

Surgery, Transplantation

Krishnamurthi, Venkatesh, MD

Surgery, Vascular

Kashyap, Vikram MD
Rao, Vikram MD

Urology

Cherukuri, Subbarao MD
Jawa, Prem S. MD
Kedia, Kalish MD
Krishnamurthi, K.C. MD
Sivalingam, Sri MD
Vasavada, Sandip MD

Women's Health

Pahlajani, Geetu MD

AIPNO MEMBERSHIP APPLICATION



NAME: _____

SPOUSE: _____

SPECIALTY: _____

SUB-SPECIALTY: _____

OFFICE ADDRESS: _____

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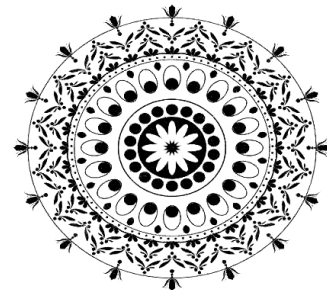
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DR MOHAN DURVE PRESENTS CME PROGRAMS FOR YEAR 2025

** Dr. Durve will be escorting the trip **

**Jan 18, 2025 Morocco	Casablanca, Erford, Sahara Desert, Boumalne du Dades, Marrakech	\$1779
**Thailand Feb 13 – 25, 2025	Thailand – Bangkok (4night), Ayutthaya (1 night), Sukhothai (1 night), Chiang Rai (2 night), Chiang Mai (3 night)	\$1279 dbl w/air LAX \$2269 \$1779 sng
Feb 19 – March 5, 2025 Australia / New Zealand	Australia / New Zealand - Christchurch, Queenstown, Milford Sound, Cairns, Great Barrier Reef & Sydney	\$5549 dbl \$7149 sng
**June 20- July 2, 2025 France, Switzerland, Austria, Italy 13 days Other departure dates: 4/4, 4/25, 6/6 & 7/25	Peaks of Europe: The Alps to the Dolomites France (Chamonix - Annecy) Switzerland (Gstaad – Lucerne) Austria (Seefeld – Innsbruck) Italy (Brunico – Dolomites – Cortina – Mogliano)	\$5399 dbl \$6299 sng \$5399 dbl
March 27 – April 9, 2025 or April 3 - 16, 2025 S. Africa	South Africa – Kruger Nat'l Park, Knysna, Stellenbosch, Cape Town. With optional 3 night pre tour to Dubai Optional 3 night post tour to Victoria Falls	\$3649 dbl \$4699 sng
4/3, 5/10, 6/6, 9/12 13 days Ireland	Shades of Ireland – featuring Northern Ireland Dublin, Waterford, Killarney, Ennis, Galway, Donegal Enniskillen, Derry, Belfast	\$3799 dbl
April 12, 2025 Costa Rica	Costa Rica – San Jose, Tortuguero Nat'l Park, San Carlos, Arenal Volcano, Playa Herradura, Manuel Antonio Nat'l Park, Tarcoles, San Jose	\$2999 dbl \$3899 sng

ALL rates are for Land / Cruise. Call for Air prices and we can book your air from your city of departure. Prices are per person sharing a twin/double in U.S. dollars. Gratuities, visa fees, travel insurance & CME fees are extra. *Dates & prices are subject to change without notice.* ALL departures are guaranteed. Non-physicians & guests welcome.

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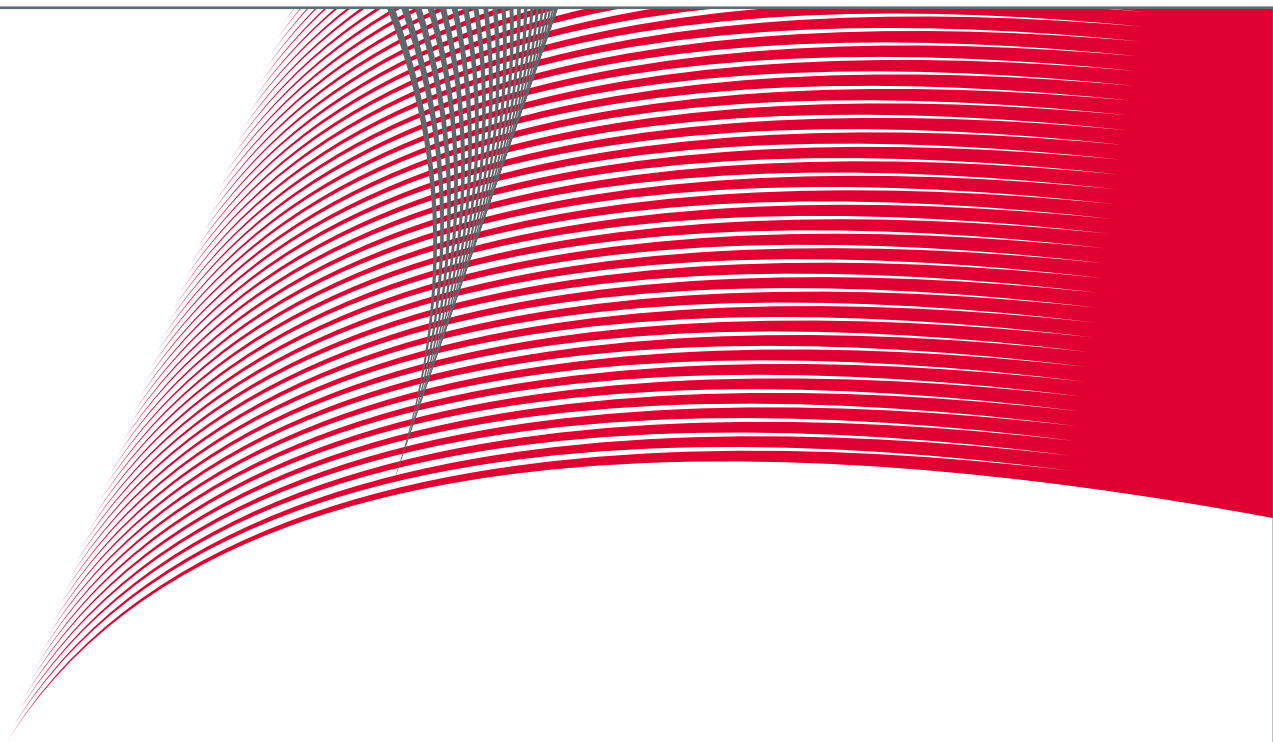
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*Best wishes to AIPNO from the Kumar family -
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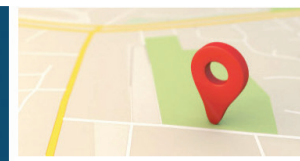
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INDICATION AND IMPORTANT SAFETY INFORMATION

GVOKE is indicated for the treatment of severe hypoglycemia in adult and pediatric patients with diabetes ages 2 years and above.

IMPORTANT SAFETY INFORMATION

Contraindications

GVOKE is contraindicated in patients with pheochromocytoma, insulinoma, and known hypersensitivity to glucagon or to any of the excipients in GVOKE. Allergic reactions have been reported with glucagon and include anaphylactic shock with breathing difficulties and hypotension.

Warnings and Precautions

GVOKE is contraindicated in patients with pheochromocytoma because glucagon may stimulate the release of catecholamines from the tumor. If the patient develops a dramatic increase in blood pressure and a previously undiagnosed pheochromocytoma is suspected, 5 to 10 mg of phentolamine mesylate, administered intravenously, has been shown to be effective in lowering blood pressure.

In patients with insulinoma, administration of glucagon may produce an initial increase in blood glucose; however, GVOKE administration may directly or indirectly (through an initial rise in blood glucose) stimulate exaggerated insulin release from an insulinoma and cause hypoglycemia. GVOKE is contraindicated in patients with insulinoma. If a patient develops symptoms of hypoglycemia after a dose of GVOKE, give glucose orally or intravenously. Allergic reactions have been reported with glucagon. These include generalized rash, and in some cases, anaphylactic shock with breathing difficulties and hypotension. GVOKE is contraindicated in patients with a prior hypersensitivity reaction.

GVOKE is effective in treating hypoglycemia only if sufficient hepatic glycogen is present. Patients in states of starvation, with adrenal insufficiency or chronic hypoglycemia, may not have adequate levels of hepatic glycogen for GVOKE administration to be effective. Patients with these conditions should be treated with glucose.

Necrolytic migratory erythema (NME), a skin rash commonly associated with glucagonomas has been reported postmarketing following continuous glucagon infusion and resolved with discontinuation of the glucagon. Should NME occur, consider whether the benefits of continuous glucagon infusion outweigh the risks. Glucagon administered to patients with glucagonoma may cause secondary hypoglycemia.

Adverse Reactions

Most common ($\geq 5\%$) adverse reactions associated with GVOKE are nausea, vomiting, injection site edema (raised 1 mm or greater), and hypoglycemia.

Drug Interactions

Patients taking beta-blockers may have a transient increase in pulse and blood pressure when given GVOKE. In patients taking indomethacin, GVOKE may lose its ability to raise blood glucose or may even produce hypoglycemia. GVOKE may increase the anticoagulant effect of warfarin.

Go to <https://www.gvokeglucagon.com/pdf/gvoke-prescribing-information.pdf> to see Important Information about Gvoke.



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