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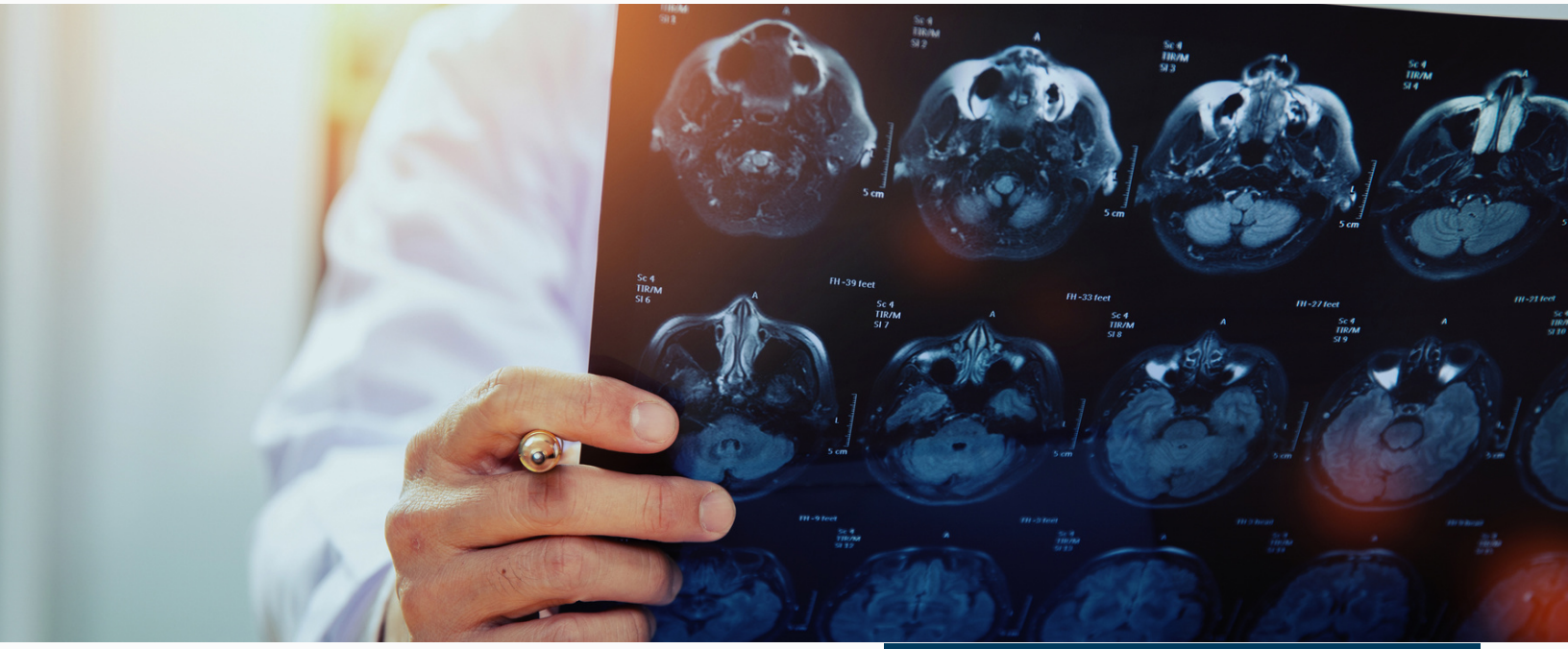
THE GEORGE WASHINGTON UNIVERSITY

WASHINGTON, DC

The Neurology & Rehabilitation Medicine Newsletter



IN THIS ISSUE

The GW Medical Faculty Associates
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A WELCOME MESSAGE

From the Interim Chair Dr. Mohamad Z. Koubeissi

Dear colleagues, patients, and families,

I am delighted to share exciting updates on the remarkable strides our department has taken in advancing the field of neurology. Comprising the best neurologists trained at esteemed academic centers across the United States, our team is a beacon of excellence in neurological care.

Our commitment to cutting-edge research is reflected in our publications in the highest impact factor journals, contributing significantly to the global neuroscientific dialogue. At the heart of our mission lies world-class education, extending from medical school to post-graduate training, shaping the future leaders in neurology.

As we envision the future, we are embarking on a strategic initiative to further elevate our capabilities. By further recruitment of top-tier neurologists from renowned programs nationwide, we aim to establish subspecialty centers that align with our vision of creating a Neurosciences Center of Excellence. This transformative step reinforces our dedication to providing unparalleled patient care, advancing research, and shaping the next generation of neurologists.

Together, we continue to redefine the boundaries of neurological excellence.

Sincerely,

M. Z. Koubeissi, MD
Interim Chair, GW Department of Neurology

ACCOMPLISHMENTS

Dr. Mohamad Z. Koubeissi has been announced the Chair of the Scientific Committee of the American Epilepsy Society (AES) during the AES annual meeting in Dec 2023 in Orlando, FL.

Dr. Zurab Nadareishvili published a paper (senior author) titled 'Effect of Pioglitazone on Vascular Events in Post-stroke Cognitive Impairment: Post hoc Analysis of the IRIS Trial " in the International Journal of Stroke (Impact Factor: 6.7)

Dr. Alexandra Eid presented Neurology Grand Rounds Entitled: *I Don't Belong Here: Understanding and Addressing Impostor Phenomenon* at GW

The HEALEY trial regimen G is activated for our site.
The IRB approved a pilot study: Real-Time Non-Invasive recognition of emotional Event during clinical examination in ALS

Dr. Elham Bayat Served as an AAN reviewer in committee for Sheila Essey award for ALS and published a paper entitled: Paraspinal Neuromuscular Syndromes, review article for MedLink Neurology web site (with Prarthana Hareesh, MD)

Our Epilepsy team attended the Annual American Epilepsy Society 2023 conference in Orlando where 6 abstract posters were presented

WHAT'S NEW IN NEUROLOGY

WHAT'S NEW

Deep learning applied to brain MRI can distinguish between Temporal Lobe Epilepsy, Alzheimer's Disease, and healthy individuals.

WHY IT MATTERS

Artificial intelligence (AI) is attractive for quickly analyzing individual brain scans. However, human analysis is still vital for applying AI results to real-life situations. This study looks at patients with seizures in one part of the brain, but the AI might miss subtle signs of a congenital brain issue called focal cortical dysplasia that can cause seizures. The technology could be used for various types of seizures and brain conditions. It's cost-effective and uses existing data, making it promising for everyday use. However, it's not ready for widespread use until more testing shows it's reliable. Human visual processing is always necessary in this context.

Reference: Chang AJ, Roth R, Bougioukli E, Ruber T, Keller SS, Drane DL, Gross RE, Welsh J, Abrol A, Calhoun V, Karakis I, Kaestner E, Weber B, McDonald C, Gleichgerrcht E, Bonilha L; Alzheimer's Disease Neuroimaging Initiative. Commun Med (Lond). 2023;3(1):33.

WHAT'S NEW

Canadian researchers discovered that 24-hour ambulatory video EEG is more effective than routine EEG after the first unprovoked seizure.

WHY IT MATTERS

A single seizure isn't enough for an epilepsy diagnosis, unless other factors indicate a higher chance of recurrence. An EEG indicating brain wave irritability helps assess this risk. Traditionally, clinicians use a short EEG (20 to 60 minutes), but recent findings favor a 24-hour EEG for better detection of brain irritability and improved prediction of seizure recurrence. This could impact practice, encouraging the use of 24-hour EEGs for those with a first unprovoked seizure, enhancing diagnosis and management.

Reference: Hernandez-Ronquillo L, Thorpe L, Feng C, Hunter G, Dash D, Hussein T, Dolinsky C, Waterhouse K, Roy P, Jette N. Neurol Clin Pract. 2023;13(3).

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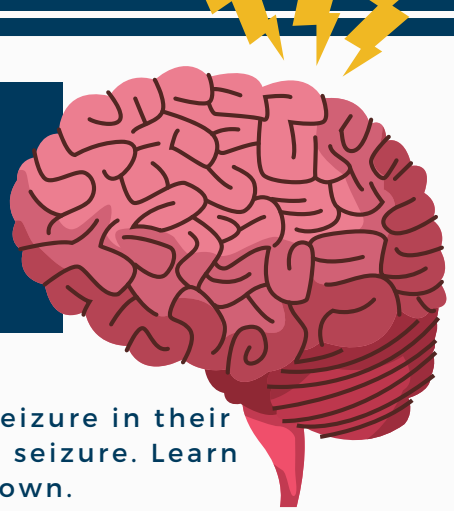
SEIZURE FIRST AID



Seizures are common: about one in ten people might have a seizure in their lifetime. So, you might have to help someone during or after a seizure. Learn how to keep them safe until the seizure ends on its own.

You can offer the following **HELP** during any seizure:

1. Stay until it's over and they're fully awake.
2. Help them sit in a safe spot afterward.
3. When alert, explain what happened simply.
4. Comfort them and speak calmly.
5. Check for a medical bracelet or emergency info.
6. Keep everyone calm.
7. Offer to arrange a safe ride home.

Most seizures don't need urgent medical help. **CALL 911 ONLY IF:**

1. It's their first seizure.
2. The seizure goes on for more than 5 minutes.
3. Another seizure follows quickly.
4. They struggle to breathe or wake after.
5. They get hurt during the seizure.
6. The seizure occurs in water.
7. They have health issues like diabetes, heart disease, or are pregnant.

For generalized tonic-clonic (grand mal) seizures,
there are the **DOS**:

1. Help the person to the floor gently.
2. Turn them onto one side to help with breathing.
3. Clear the area of anything hard or sharp to prevent injury.
4. Place something soft under their head, like a folded jacket.
5. Take off eyeglasses and loosen anything around the neck that might affect breathing.
6. Time the seizure, and call 911 if it lasts more than 5 minutes.

… and these are the **DONTS**:

1. Don't restrain the person or try to stop their movements.
2. Avoid putting anything in their mouth; it can hurt teeth or the jaw. They can't swallow their tongue during a seizure.
3. Skip giving mouth-to-mouth breaths; they typically start breathing on their own afterward.
4. Wait until they're fully alert before offering water or food.

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Interview with

Dr. Henry Kaminski

What is Myasthenia Gravis?

Myasthenia Gravis (MG) is an autoimmune condition. While our immune system typically defends against viruses and bacteria, in MG, there is a "programming error" where it mistakenly targets the communication point between nerves and muscles, leading to weakness. Commonly, this affects the eye muscles, resulting in double vision, and it can also impact breathing, potentially reaching a severity requiring admission to the intensive care unit.

What are the symptoms of MG?

The early signs of MG typically involve droopy eyelids and double vision. While the symptoms can vary, they may progress to difficulty walking up a full flight of steps, challenges with chewing, a curved smile, and an inability to lift the head up. In the most severe form, breathing is compromised.

Has the prognosis of MG changed over the years?

One hundred years ago, MG was a deadly disease, with high mortality rates in the 1930s. Over the past century, new diagnostic tests and advancements in our understanding of the immune system have led to more effective treatments. Particularly in the last decade, there have been remarkable strides, with the introduction of four new FDA-approved drugs and more in the pipeline. These breakthroughs stem from a fundamental grasp of the biology, where antibodies damage the muscle in a way we can now inhibit. Thymectomies have proven to be effective for patients with acetylcholine receptor antibodies.. This marks a phenomenal transformation.

What does GWU-MFA offer to patients with MG?

It's crucial to recognize that this is a rare disease. Even the most skilled neurologists in the community encounter one or two patients every few years and might not promptly consider the correct diagnosis. Patients might initially consult ophthalmologists, who may not readily identify the disease either. At GWU, we have extensive experience with these patients, having seen thousands of MG patients. If someone exhibits these symptoms, it's vital to confirm whether they have MG or not. Treating patients without the disease can lead to significant problems.

It's noteworthy that GW has world-class electrophysiologists who confirm the diagnosis. Additionally, when treatment commences, patients may develop other issues like restless leg syndrome and sleep apnea, necessitating referrals to our exceptional sleep specialists. Elderly MG patients benefit from our geriatric, cardiology, and pulmonology specialty groups. GW Hospital offers services such as plasmapheresis and outstanding critical care units, which are not common in other hospitals. While the neurologist plays a pivotal role in recognizing the problem, the critical care team is essential in guiding patients through a crisis.

Interview with

Dr. Henry Kaminski

What should the families of patients with MG know?

It is crucial, especially initially, for family members to attend patients' appointments and listen to their experiences. Despite appearing weak with a possibly depressed facial expression, patients often aren't actually depressed. They require assistance in coping with the medications, such as prednisone, which can cause irritability. Compassion and understanding from family members can significantly benefit the patients. The most challenging aspects involve making the diagnosis, accepting it, navigating through the treatment, and managing the treatment's complications. However, within 6 to 12 months, patients can often recover to nearly 90% to 100% of their previous state. Thus, it is important to provide continuous support to the patient throughout this process.

Dr. Kaminski's experience at GW.

Dr. Kaminski joined GW in 2011, and his research program has flourished and established excellent collaborations. In the past year, Dr. Kaminski initiated collaboration with an applied mathematician to explore the use of AI in enhancing neuromuscular examinations. His team has also begun examining distinctive specimens from clinical trials, aiming to identify markers that could predict individuals' outcomes and enable more tailored treatments. This progress is attributed to the supportive GW environment, and Dr. Kaminski anticipates further improvements.

Dr. Kaminski's patient volume

During his career, Dr. Kaminski has treated thousands of MG patients, and currently, he has approximately 300 patients who regularly follow up at GW. While, during his entire residency training, he only saw two MG patients, he now meets a few patients every week. He attributes this high volume to the influence of the DC metro area and the renowned reputation of the GW MG Center, which has garnered recognition at regional, national, and international le a few patients every week. He attributes this high volume to the influence of the DC metro area and the renowned reputation of the GW MG Center, which has garnered recognition at regional, national, and international levels.

About the GW environment

Dr. Kaminski believes the standout quality of GWU is, without a doubt, "my colleagues." They are fantastic—always ready to assist him and his patients when he has questions. Having residents and medical students around also adds a lot of fun. Discussing MG with them is invigorating, especially as he now gets to showcase more than eight patients a week, a significant contrast from his time in residency.

Message to MG patients

This is for those who are newly diagnosed or treatment-resistant: this is a challenging period in your life, and with thoughtful and logical treatment, improvement is possible.

Interview with

Dr. Henry Kaminski

2024 Epilepsy Seminar Series

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February 13, 2024
Emilio Perruca, MD, PhD, FRCP
University of Melbourne, Australia
Title: Recent Advances and Future Perspectives in The Pharmacological Treatment of Epilepsy

March 12, 2024
Fred Lado, MD, PhD
Northwell Health, New York, United States
Title: TBA

April 9, 2024
William Stacey, MD, PhD
University of Michigan, United States
Title: Predicting Surgical Outcome With Network Properties of HFOs

May 14, 2024
Judy Liu, MD, PhD
Brown University, Rhode Island, United States
Title: Metabolic Pathways in Epilepsy

June 11, 2024
Samir Sheth, MD, PhD
Columbia University, New York, United States
Title: Network-Minded Epilepsy Surgery

July 9, 2024
Brian Lundstrom, MD, PhD
Mayo Clinic, Minnesota United States
Title: Low Frequency Brain Stimulation

August 13, 2024
Michael Fox, MD, PhD
Brigham and Women's Hospital, Massachusetts, United States
Title: Causal Mapping of Epilepsy and Other Symptoms Onto Human Brain Circuits

September 17, 2024
Carrie McDonald, PhD
University of California San Diego, United States
Title: Imaging of Cognitive Networks in Epilepsy

October 15, 2024
Lori Isom, PhD
University of Michigan, United States
Title: Discovering Mechanisms of Developmental and Epileptic Encephalopathy With SUDEP

November 11, 2024
Jeff Noebels, MD, PhD
Baylor College Of Medicine, Texas, United States
Title: Glioblastoma Epilepsy: A Hypersynaptic Ring of Fire

December 17, 2024
Joseph Tracy, PhD, ABPP/CN
Thomas Jefferson University, Pennsylvania, United States
Title:TBA

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Connect with us

Thank you

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