HAWAII PACIFIC NEUROSCIENCE

HONOLULU

2230 Liliha Street #104
Honolulu, Hawaii 96817, USA

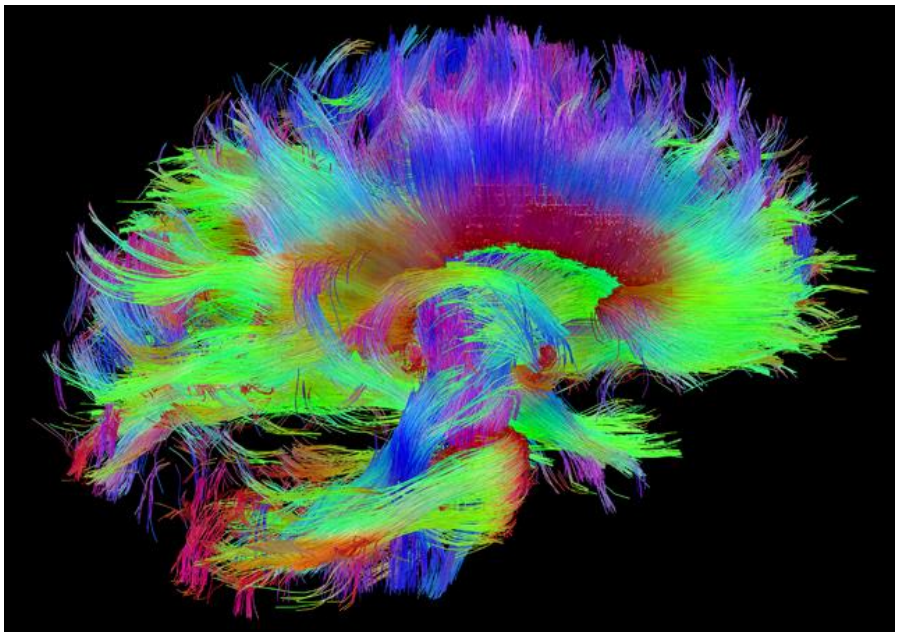
WEST OAHU

94849 Lumiaina Street #203
Waipahu, Hawaii 96797

Call or Text (808) 261-4476 Fax (808) 263-4476
Dedicated Research Line (808) 564-6141, Fax (808) 443-0774
www.HawaiiNeuroscience.com Online Referral Form

Report 2021-2022

Neuroscience Center of Excellence



Our Commitment to Excellence in Neuroscience Patient Care, Research & Services in Hawaii

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About the Neuroscience Institute

Measuring and understanding outcomes of treatments and care pathways promotes quality improvements. This publication is a testament of our commitment here at Hawaii Pacific Neuroscience to monitoring and reporting quality improvement outcomes to continuously improve patient care.

We use data to manage outcomes across the full continuum of neuroscience care we provide. Our team are obsessed about quality improvements process and quick to learn, adapt and on a continual journey to implement practical measures so our patient continues to receive care delivery pathways that are evidence based and measurable. Although a particular care pathway or service line can be working on many qualities improvement measures at any one time, this booklet feature only one select measure to highlight. This can be an innovative groundbreaking therapy brought to the island for the first time or whether a lifestyle change can reduce stroke risk in our patients . Either way, we strive to bring values to the care we provide for our ohana every day.

Hawaii Pacific Neuroscience (HPN) is made up of a more than 20 different disease-specific, "one stop shop" centers of excellence provided by interdisciplinary collaborative team in neurology, physical medicine & rehabilitation and others where the patient is the center and focus of our care pathways.

Our unique, fully integrated care model allows our specialists to provide evidenced based care, closely measure quality and outcomes on a continual basis on our more than 20,000 unique patient database and enhance our ability to conduct research. It also allow our patients to better access the care they need through multidisciplinary, disease specific centers that fully integrate the expertise of different specialists. HPN's specialists are consistently voted by peers as "Best Doctors" in Hawaii and HPN recognized nationally for its neuroscience care and research.

History

Hawaii Pacific Neuroscience was founded in 2009 by Kore Kai Liow, MD and his wife, Michelle Liow after they moved to the island to retire only discover that patients must wait a long time to have access to quality neuroscience care especially those underserved populations in Hawaii.

Kore and Michelle poured their life savings into creating an organization focused on providing 4Cs:

- Care and services of highest quality including groundbreaking innovative research therapies
- Convenient access & locations
- Cost efficient care delivery pathways with measurable quality outcome data
- Culture of servant leadership – to teach & mentor and to care for all regardless of payment abilities

Our unique organizational structure, our mission and our people contribute to our success. Today, HPN is one of Hawaii's leading and largest provider of neuroscience care and a global leader in research, advancing innovations in neuroscience. Our team of more than 50 neuroscience specialists and employees serve over 20,000 patients every year from all Hawaiian and surrounding Pacific islands.

Our research team collaborate with global partners and organizations around the world including NIH and attracted over $4 million in investments each year to the islands in innovative biotechnology, research care and services to benefit Hawaii's local patients, healthcare sector and local economy.

Welcome from Neuroscience Chair

"You don't build an organization, you build people, then people build the organization." *Zig Ziglar*

It is often said that a company is only as good as its people.

At Hawaii Pacific Neuroscience, building, nurturing, and empowering people is not something we do out of necessity or obligations, but it is a priority and main reason we even exist! This philosophy spills over to how we nurture not only our employees, but also others from outside like residents, medical students, research students, medical assistants and billing students. If you walk around Hawaii Pacific Neuroscience at any given day, there is a good chance you will run into residents, students, interns that is being nurtured and mentored on our campuses.

My role as the founder, CEO and Neuroscience Chair is to make sure that everyone here from our world class specialists to front desk employees at Hawaii Pacific Neuroscience has great opportunities and they know and understand that what they are doing everyday has a profound and meaningful impact on the lives of people and society. I also know that great care and services cannot be delivered from unhappy employees so my number one priority has been, and will always be to nurture, empower and seek growth opportunities for our people.

It is my hope that more than just your interest in our services, you will find some amazing doctors, researchers, managers and how their dedication, hard work and sacrifices made a profound difference in the lives of countless patients who seek hope and care here every day especially the underserved and those who need care the most. I know their ingenuity, their talents, their sacrifices, their leadership will inspire you.

Most of all, I hope you will take a minute to read the unsolicited stories and experiences by our patients. I am confident that you will be inspired by their courage, their strength and those of their families. They are the reasons we exist and the reasons we are excited to get out of bed everyday to come to work!

Mahalo for the privilege to serve and trusting us with your loved ones,
Kore Kai Liow, M.D,
President & CEO, kliow@hawaiineuroscienc.com

"Our belief is that if you get the culture right, most of the other stuff, like great customer service, or building a great long-term brand or empowering passionate employees and customers, will happen on its own." *Tony Hsieh, Zappos*

Overview for Hawaii Pacific Neuroscience

July 2021 -June 2022

Our People:

Neuroscience Physicians & Researchers	9
Advanced Practice Providers:	3
Managers, Supervisors	6
Dedicated Research Staff	6
EEG, Sleep Technicians	6
General Staff Members:	21
Total Associates	**51**

Residents:	14
Medical Students:	38
Research Students	33

BRITL Scholars
(Graduate & med
students) SIP Interns

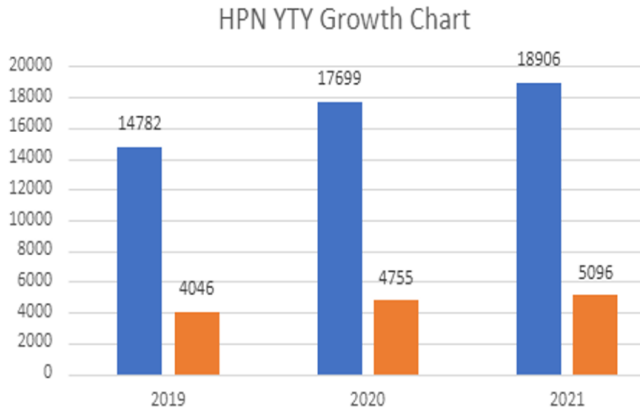
Total Residents & Students ***85***

Overview for Hawaii Pacific Neuroscience

July 2021 -June 2022

What We Do

Referrals	4056
New Patients	2618
Established Patients	8994
Research Visits	754
Research Projects awarded (NIH & Others)	41
EEG	1375
VEEG	133
EMG	1170
PSG	445
Injections	963
Neuromodulation (Neuro & Sleep devices)	26
Total Visits:	***22,048***

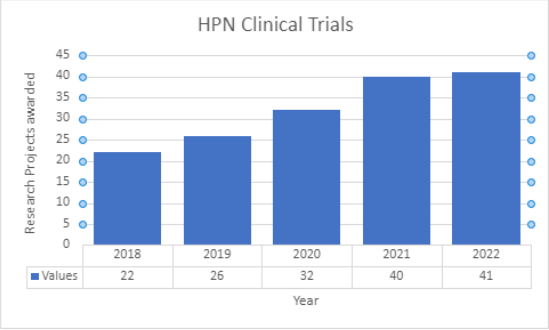


Steady Growth in midst of Pandemic, Post pandemic challenges including labor shortages, location & staff changes

The Clinical Research Center (CRC) is fully staffed with full time investigators and credentialed, experienced and qualified research raters and staff.

The CRC is a highly sought after site and have a national reputation for successful completion and recruitment including rapid site start up. The CRC has successfully completed over 100 clinical trials and actively involved in investigations of:

- NIH NINDS Funded Hawaii site for NeuroCOVID Databank/Biobank
- Alzheimer's, MCI, Preclinical and other related neurodegenerative disorders
- Parkinson's, & other movement disorders including Huntington's chorea, tremors
- Epilepsy, Seizures including acute abortive therapies in overnight EMU
- MS, Neuroimmunology, Vaccine research
- Pain, Headache, Migraines research
- Neuromuscular including myasthenia gravis
- Concussion, traumatic brain injury
- Narcolepsy and other sleep disorders
- Stroke and Neurovascular research
- Neurodevice, neuromodulation studies
- Rare Neurological Diseases



Few recent examples of successfully investigated, FDA approved and launched products include Cenobamate for Epilepsy, Inbrija for Parkinson's, Kesimpta for MS, Daridorexant for Insomnia in recent years.
See list of active recruiting clinical trials.

Fully Equipped & Experienced Phase 0, I, II, III and IV Trial Capable

The Neuroscience Center with its Centers of Excellence for disease specific disorders are fully integrated so that patients have easy access to the benefits of world class groundbreaking clinical research at the Clinical Research Center specially equipped with:

- Biomarker (CSF, serum, genetic) sampling,
- Phase 0 & Phase I Normal Volunteer and Patient Subject Studies
- PK studies in overnight PK Unit
- IV Infusion studies in IV Infusion Center
- 20 Exam rooms with dedicated Monitor rooms
- Central IRB for Rapid Site Start Up
- On-site 3T MRI
- On-site Radiology Department
- Onsite Spinal Tap/Fluoroscopic LP
- Onsite Pharmacy
- Onsite IV Infusion Center
- Onsite Emergency resuscitation equipment
- Central Laboratories use & experience
- Accredited Local Laboratory
- Refrigerated, ambient temperature centrifuge
- Refrigerators -20C freezer, -70 Freezer
- Onsite ABRET accredited & CliniLab certified EEG & VEEG Labs
- Onsite AASM Accredited & CliniLab certified Sleep Laboratory
- IATA certified Lab
- Ongoing GCP training
- Onsite EMG, EEG
- Locked/secure Drug storage temperature controlled and monitored daily

HAWAII PACIFIC NEUROSCIENCE

Brain Research, Innovation & Translation Laboratory (BRITL)

The Brain Research, Innovation & Translation Laboratory (BRITL) foster collaboration, bench to bedside translation and a culture of innovation and collaboration between departments, centers, institutions, and outside organizations.

Physicians and scientists of diverse backgrounds work closely within and across centers, institutes, and schools to collaborate whether they are basic laboratory-based scientists, bio statisticians or clinicians to encourage cross disciplinary translation bench to bedside research. Our diverse faculty also mentor aspiring diverse residents, medical students & select graduate and undergraduate students under the "Brain Research, Innovation and Translation Lab (BRITL) *Neuroscience Scholar Program"* and the Hawaii Neuroscience Summer Internship Program (SIP).

2022 BRITL Neuroscience Research Faculty & Mentors

Kore Liow, MD	Neurology, Clinical Professor of Med (Neurology)
Jason Viereck, MD, PhD	Neurology, Clinical Assistant Professor of Med (Neurology)
Enrique Carrazana, MD	Neurology, Clinical Educator, Dept. of Med (Neurology)
Vimala Vajjala, MD	Neurology, Clinical Assistant Professor of Med (Neurology)
Michael Slattery, MD	Neurology, Clinical Assistant Professor of Med (Neurology)
Eliza Hagen, MD	Neurology
Todd Uchima, PA-C	Neurology
Chris Larrinaga, APRN	Neurology
L. Nicole Little, PA-C, PhD	Neurology
Jason Chang, MD	Neurorehabilitation, Clinical Assistant Professor of Med (Neurology)
Kent Yamamoto, MD	Neurorehabilitation, Clinical Assistant Professor of Med (Neurology)
David Baskin, MD	Neurosurgery, Professor and Residency Program Director, Houston Methodist
Ricardo Burgos, MD	Neuroradiology
Qing Li, PhD	Neuroscience, Molecular Biosciences & Bioengineering, UH Manoa
Paul Smith, MD	Brain Health, Lifestyle Medicine & Wellness, Sub-Investigator
Sriharsha Vajjala, MD	Sleep Medicine, Clinical Educator, Dept. of Med (Neurology)
Lawrence Burgess, MD	Surgery, Professor of Surgery & Director of Student Affairs, SOM
John Chen, PhD	Biostatistics, Chair, Dept. Quantitative Health
Chathura Siriwardhana, PhD	Biostatistics, Dept. Quantitative Health

Stroke & Neurologic Restoration Center
Stroke Research Unit

The Hawaii Stroke and Neurologic Restoration Center focuses all of our efforts on the goal significantly improving the chances of an excellent recovery after a stroke and the prevention of another stroke.

We strongly believe that our patients deserve high quality, compassionate care after their stroke. Therefore, we work laulima together using a holistic multidisciplinary approach team includes fellowship trained stroke and vascular neurologist, neurorehabilitation specialists, brain health wellness physician, speech, physical and occupational therapist to includes a comprehensive stroke work up to tailor individual treatment and stroke recovery plans for our patients.

This includes optimizing:

1. Preventive measures with use of medications and advanced procedure to reduce risk of another stroke
2. Rehabilitation efforts and use of new and innovative therapies like Botox injections and neuromodulation to help restore function and improve quality of life and function.
3. Holistic approach addressing mental concerns as well as diet and healthy activities with our board certified lifeline wellness physician especially reducing preventable lifestyle like smoking cessation program.

Clinical Trials available at Hawaii Stroke Research Unit

Publications by our specialists and researchers at the Hawaii Stroke Restoration Research Unit

Our specialists and staff are passionate about making a difference not just for our patients but for their precious families and caregivers. We understand the challenges of facing these issues and encourage our patients to seek out credible resources with local and national support groups.

American Stroke Association.
A division of the American Heart Association.

Jason Viereck, MD, PhD
Director, Stroke and Neurologic Restoration Center
Sub investigator, Stroke Research Unit
Hawaii Pacific Neuroscience
Clinical Assistant Professor of Medicine,
University of Hawaii John Burns School of Medicine
Stroke Fellowship: Boston University Medical School
Neurology Residency: Boston University Medical School, Boston

Utilization of a Risk Acuity Scorecard for Comparison of Stroke, Pre and Post Therapeutic Lifestyle Intervention

Vanessa Rubel[1,2], Stephanie Matsuura[1,2], Hannah Bulosan[1,2], Dariann Davis[1,3], Tefaiha Ashe[1,5], Jonathan Aoki[1,4], Connor Goo[1,2], Paul Smith, MD[1], Enrique Carrazana, MD[1], Jason Viereck, MD, PhD[1], Kore Kai Liow, MD, FACP, FAAN[1,2]

[1]Self Care and Wellness Center, Hawaii Pacific Neuroscience, Honolulu HI, [2]John A. Burns School of Medicine, University of Hawaii, Honolulu, HI, [3]Hawaii Pacific University, Honolulu, HI, [4]University of Hawaii at Manoa, Honolulu, HI, [5]McMasters University, Hamilton, Ontario

Introduction

Stroke is the leading cause of long-term adult disability and fifth leading cause of death in the United states. Modifiable risk factors for stroke, such as hypertension and diabetes mellitus, plague many Americans. Lifestyle medicine was developed to treat lifestyle-related contributors to noncommunicable diseases, like stroke.

Objective

To determine if HPN stroke patients who have had ≥2 lifestyle visits will have an improved LMA score. Also, to investigate whether changes in LMA scores are correlated with changes in incidence of high-risk factors for stroke.

Methods

The Lifestyle Medicine Assessment (LMA) is a clinical tool that is used to assess a patient's overall health risk factors. The stroke risk scorecard is a clinical tool that determines a patient's stroke risk. Pre survey data was collected from 8 patients in HPN's database who met the following criteria: had a previous stroke and had ≥2 lifestyle visits with Dr. Smith between October 2021-July 2022. These patients were given LMA and PHQ-2 assessments on their first and last visits. Using the stroke risk scorecard, patients were also categorized into high, caution, and low stroke risk groups.

Results

Overall, no significance was found in both the changes in total LMA scores when comparing high versus low stroke risk groups.

Overall LMA Score by Risk

	Low Risk		High Risk	
	Before, N = 4[1]	After, N = 4[1]	Before, N = 4[1]	After, N = 4[1]
Overall Score	32.8 (6.5)	39.5 (5.3)	31.2 (3.0)	31.0 (5.8)
P-value	0.125		1	

[1]Mean (SD)

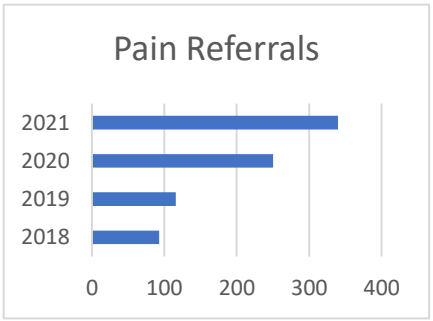
Conclusions

The low-risk group showed a slight increase in individual LMA domain scores and the mean scores of individual LMA domains in the high-risk group remained relatively unchanged after the initial visit. This study was limited by a small sample size. Further research is needed to determine the effectiveness of the LMA and stroke risk scorecard in reducing stroke recurrence risk.

Spine and Pain Management Center

Spine injuries and chronic pain are leading causes of disability in America. Our team of experienced specialists in neurology, physical medicine and neurorehabilitation are experts in developing interdisciplinary service lines to create customized, patient centered treatment plans for patients with an emphasis on compassionate care and functional independence to improve quality of life.

It is our goal to create the most comprehensive spine and pain center in Hawaii, where patients can receive all aspects of their care under one roof and from time of initial consultation to the resolution of symptoms. To be a leader in conservative pain management as well as interventional care. Where a multitude of specialists and staff can come to the patient and provide all aspects of care.



We use a multimodal approach to pain management with expertise in: physical therapy, occupational therapy, speech therapy, neuropsychology, vocational training, acupuncture, chiropractic care, behavioral modifications/wellness, oral/topical and injectable medications, botox, neuromodulation, and minimally invasive surgical techniques. Each patient will have a comprehensive physical and functional evaluation with access to ultrasound, xrays, CT scans, MRI's, and electrodiagnostic testing.

PT/OT/ST, vocational training, work hardening
Neuropsychology, Behavioral health
Wellness center, Acupuncture, Chiropractic
Interventional procedure: botox, spasticity management, epidural, facet, trigger point, neuromodulation, minimally invasive neurosurgery
Headache management
Research Therapies for the right candidate

American Chronic Pain Association

Clinical Trials available at Spine & Pain Research Unit

Publications by our specialists and researchers at the Spine Center

Our specialists and staff are passionate about making a difference not just for our patients but for their precious families and caregivers. We understand the challenges of facing these issues and want to be sure you do not feel alone in this journey and have local resources available to you. Therefore, we work closely with and support Hawaii's local support group.

Jason Chang, MD
Director, Spine and Pain Management Center
Sub investigator, Spine and Pain Research Unit
Hawaii Pacific Neuroscience
Clinical Assistant Professor of Medicine,
University of Hawaii John Burns School of Medicine
PM & R Residency: University of California School of Medicine, Irvine

Implementation of the Modified Oswestry Disability Index (MODI) in Outcome Assessments for Chronic Back Pain Patients Undergoing Conservative Treatment: A Quality Improvement Project

Amanda Chau[2], Sophia Chun[4], Brandon Roy[4], Amelia Weintraub[3], Connor Goo[1,2], Jason Chang, MD[1,2], Enrique Carrazana, MD[1], Jason Viereck, MD, PhD[1], Kore Kai Liow, MD, FACP, FAAN[1,2]

[1]Spine & Pain Management Center, Hawaii Pacific Neuroscience, Honolulu HI, [2]John A. Burns School of Medicine, University of Hawaii, Honolulu, HI, [3]University of California Los Angeles, Los Angeles, CA [4]University of Hawaii, Honolulu, HI

Introduction

The numeric rating scale (NRS) is commonly used to assess pain intensity but only depicts a single dimension of a patient's pain experience.

Objective

The purpose of this study was to evaluate the clinical utility of supplementing the traditional NRS pain scale with the Modified Oswestry Disability Index (MODI) in understanding a patient's chronic back pain experience.

Methods

This study was conducted at a single-center outpatient clinic on patients with chronic back pain from radiculopathy or lumbago with sciatica. 32 patients were administered two surveys before and after completing 6 weeks of conservative pain treatment, including NRS to evaluate pain intensity and MODI to measure functional capacity. Percent change in NRS and MODI scores were calculated and compared using partial correlation analysis. Patients were excluded from the final analysis if they were lost to follow up or had a history of physical therapy for their back pain.

Results

11 of 32 participants were analyzed with a mean age of 54±14. 36% were female, 36% were unemployed, and 90% had public insurance. 2 participants showed a positive correlation between changes in NRS and MODI, while 9 participants showed a negative correlation or no correlation. After adjustment for age, sex, ethnicity, and BMI, there was no significant correlation between changes in NRS and MODI scores (p=.24) in chronic back pain patients.

Conclusions

This study emphasizes that chronic pain is a multidimensional phenomenon, encouraging providers to look beyond isolated assessment such as pain intensity and focus on outcomes most important to patients.

TBI CONCUSSION CENTER
CONCUSSION RESEARCH UNIT

TBI & Concussion Center & Concussion Research Unit

A concussion or other types of traumatic brain injury can affect everyone differently. Common symptoms include headaches, dizziness, imbalance, falls, mood disturbances and memory problems. Most improve within a week or two, but some symptoms last longer and can affect daily life. Hawaii Traumatic Brain Injury (TBI) and Concussion Center at Hawaii Pacific Neuroscience is dedicated to provide comprehensive care that includes clinical evaluation, treatment and rehabilitation for those with concussion or severe traumatic brain injuries.

After a comprehensive evaluation, an individualized treatment plan customized for individual needs will be tailored. Our multidisciplinary team at the Concussion Center.

Our experienced physiatrists including a board certified Brain Injury Medicine physician can provide rehabilitative treatment options for severe traumatic brain or spinal cord injuries. Our neurologists are skilled at treating not only posttraumatic seizures and epilepsy but also posttraumatic headaches, which are very common after any concussion.

Clinical Trials available at TBI Research Unit

Publications by our specialists and researchers at the Concussion Research Unit

Our specialists and staff are passionate about making a difference not just for our patients but for their precious families and caregivers. We understand the challenges of facing these issues and want to be sure you do not feel alone in this journey and have local resources available to you. Therefore, we work closely with and support Hawaii's local support group. Please visit their website.

BRAIN INJURY ASSOCIATION OF AMERICA

Interdisciplinary Specialists & Services *Online Referral Form*

Neurologist – Specializes in concentration, attention, and cognitive symptoms, headache, facial & neck pain
Neurorehabilitation – specializes in pain, muscle weakness and cognitive evaluation rehabilitation
Neurorehabilitation – specializes in rehabilitation to minimize on-going damage and restore neuro functions
Sleep specialist – specializes in evaluating insomnia", restless leg, sleep disorders associated with TBI
Wellness Physician - board certified in lifestyle medicine specializing in brain health

Impact of Return-to-Exercise on Traumatic Brain Injury Recovery in a Community Setting

Edward Weldon[1,2], Tracy Van[1,3], Ana Nakamura[1,4], Chancen Law[1,5], Ryan Nakamura[1,2], Meliza Roman[2], Connor Goo[1,2], Enrique Carrazana, MD[1], Jason Viereck, MD, PhD[1], Kore Kai Liow, MD, FACP, FAAN[1,2]

[1]Concussion & TBI Ctr, Hawaii Pacific Neuroscience, Honolulu HI, [2]John A. Burns School of Medicine, University of Hawaii, Honolulu, HI, [3]Skaggs School of Pharmacy, University of Colorado, Aurora, CO, [4]University of Santa Barbara, Santa Barbara, CA, [5]Kamehameha Schools, Honolulu, HI

Introduction

Recommendations on return-to-exercise post-traumatic brain injury (TBI) remain controversial. This study surveys Hawaii's diverse population to identify trends in exercise and recovery for TBI patients to shape recommendations on return-to-exercise. It also aims to identify health inequities and factors contributing to different outcomes, allowing inequities to be addressed.

Objective

To investigate the relationship between exercise modalities, intensities, and patterns following TBI and recovery, and to identify health inequities and barriers to recovery that may negatively impact recovery.

Methods

Retrospective review of patients at TBI Ctr at HPN between January 2020 and January 2022 was performed. Variables collected include demographics, etiologies, and symptoms at diagnosis. Self-generated phone surveys were completed to evaluate exercise patterns post-TBI and barriers to recovery. Statistical analysis was performed using RStudio.

Results

Patients who recovered within two years displayed similar exercise patterns to patients who took longer. Exercise frequency, intensity, and duration did not differ significantly ($p=0.75$, $p=0.51$, $p=0.80$, respectively). Hiking/walking for exercise was more common in the long recovery group ($p=0.018$), likely reflecting advanced age compared to the short recovery group (50 vs. 39 years, $p=0.003$). Otherwise, exercise modalities did not differ significantly. Additionally, no correlation exists between exercise intensity and symptom change ($p=0.920$), suggesting patients exhibit exercise patterns suitable for their specific situations. Finally, when comparing TBI recovery resources accessed and race or insurance type, Caucasian patients utilized the most resources compared to other races and private insurance utilized by far the most resources ($p=0.032$).

Conclusions

Return-to-exercise does not appear to be a predictor for TBI recovery. If encouraged to exercise post-TBI, patients will self-regulate a regimen not likely exacerbating their symptoms or recovery time, thus it may be suitable to recommend return-to-exercise as tolerated. The study also found worrying inequitable trends in TBI recovery resources accessed, and these disparities should be further investigated to rectify this issue.

Hawaii Sleep and Insomnia Center & Sleep Research Unit is the only sleep center in Hawaii to offer clinical as well as ground breaking research therapies for sleep disorders. The Sleep and Insomnia Center is dedicated to the comprehensive clinical evaluation and laboratory evaluation for patients with all types of sleep disorders. The center also serves as a medical referral facility for the diagnosis and treatment of sleep disorders and provides education for both professionals and the community designed to increase awareness of sleep-related conditions. **Services available Honolulu, West Oahu & Neighbor Islands (808) 261-4476** *Online Referral Form*

The Center's highly trained and experienced staff includes physicians who are Board Certified in Sleep Medicine and registered polysomnographic technologists, who are proficient in evaluating and diagnosing a range of sleep difficulties and providing patient education. The Center is nationally accredited by the American Academy of Sleep Medicine (AASM).

The team designs personalized treatment programs to manage a broad spectrum of sleep disorders in adults and children including obstructive sleep apnea; excessive daytime sleepiness; snoring; insomnia; restless legs syndrome; parasomnias; narcolepsy; shift work sleep disorder; jet lag syndrome and various other sleep problems. The Sleep Disorders Center offer new patients and returning patients appointments at which they meet with sleep specialists to discuss their problems, explain their medical histories and undergo physical examinations.

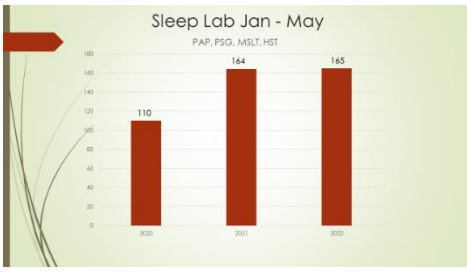
Our Center is recognized nationally for its work not only in providing most advanced cutting edge treatments, but also work with other centers in US and global to offer groundbreaking Clinical Research.

Sleep Clinical Trials available at Sleep and Insomnia Center

Publications by our specialists and researchers at the Sleep and Insomnia Center

Our specialists and staff are passionate about making a difference not just for our patients but for their precious families and caregivers. We understand the challenges of facing these issues and want to be sure you do not feel alone in this journey and have local resources available to you. Therefore, we work closely with and support Hawaii's local support group.

Michael Slattery MD
Director, AASM Accredited Sleep Laboratory and
Sleep and Insomnia Center
Sub investigator, Sleep Research Unit
Hawaii Pacific Neuroscience
Residency Neurology: Tufts New England Medical Center
Sleep Fellowship: Harvard Medical School



CPAP Adherence Among Obstructive Sleep Apnea Patients in Hawaii

Theodore Huo[1,2], Kalawena Kalehuawehe[1,3], Brooke Suzuki[1,4], Lorraine Sim[1,5], Connor Goo[1,2], Devashri Prabhudesai, MS[6], John J Chen, PhD[6], Sriharsha Vajjala, MD[1], Enrique Carrazana, MD[1], Jason Viereck, MD, PhD[1], Kore Kai Liow, MD, FACP, FAAN[1,2]

[1]Sleep and Insomnia Center & Sleep Research Unit, Hawaii Pacific Neuroscience, Honolulu HI, [2]John A. Burns School of Medicine, [3]University of Hawaii - West Oahu, Kapolei, HI, [4]University of Hawaii, Honolulu, HI, [5]University of California, Los Angeles, Los Angeles, CA, [6]JABSOM Biostatistics Core Facility, Department of Quantitative Health Sciences, University of Hawaii John A Burns School of Medicine

Introduction

Obstructive sleep apnea (OSA) is the obstruction or collapse of the upper airway while still maintaining respiratory effort during sleep. Implementing continuous positive airway pressure (CPAP) therapy is commonly used to treat patients with OSA and improve respiration. This study evaluates the CPAP adherence of patients diagnosed with OSA in Hawaii in order to understand and improve current therapeutic approaches.

Methods

A retrospective chart review was conducted on patients identified using the ICD 10 code for OSA (G47.33) in the (HPN) *eClinicalWorks* database. Data was collected from the most recent chart with a compliance rating by Dr. Sriharsha Vajjala between January 1, 2021 - December 31, 2021. Patients with coexisting diagnoses and ICD 10 codes for central sleep apnea (G47.37) and insomnia due to a medical condition (G47.01) were excluded. Compliance was determined by CPAP use for at least 4 hours a night for at least 70% of the time. Alpha = 0.05 determined statistical significance.

Results

Of the 126 patients observed, 40.5% of patients showed excellent adherence to CPAP therapy. CPAP adherence was also significantly associated with OSA severity ($p = 0.02$). 49% of patients with severe OSA were compliant while 85.7% of patients with mild/moderate OSA were not compliant to CPAP.

Conclusions

Our main finding showed that OSA severity was directly associated with improved adherence to CPAP therapy. Likewise, previous studies have reported that having a higher frequency of observed interrupted breathing correlated with better adherence to CPAP therapy.

HAWAII PACIFIC NEUROSCIENCE

Self-Care & Wellness Center & Wellness Research Unit

Services available Honolulu, West Oahu & Neighbor Islands

(808) 261-4476 *Online Referral Form*

The Self-Care & Wellness Center at Hawaii Pacific Neuroscience promotes lifestyle choices as life skills in self-care. The choices we make in what we eat, when we eat, how active we are, our sleep habits, stress management, use of alcohol, tobacco and risky substances, and our social connections/relationships with others have a profound impact on our health and well-being.

■ Each of us makes choices every day that affect our health. With the myriad of health information resources available that sometimes provide conflicting information; it can be intimidating to know what constitutes the "healthy choice."

■ Through the Self-Care and Wellness Center you will learn the Six Pillars of Lifestyle Medicine

- Nutrition,
- Physical Activity,
- Sleep Hygiene,
- Stress Management,
- Social Connectedness
- Avoidance of Risky Substances

■ Lifestyle Medicine is an evidenced-based practice of helping individuals and families adopt and sustain healthy behaviors that affect health and well-being. It effectively promotes "lifestyle as medicine."

Brain health can be improved by changing our lifestyle behaviors, including the right nutrients in our daily diet and regular physical activity. To build a personalized wellness road map begins with assessing your health risks and your readiness to change unhealthy behaviors.

Clinical Trials available at Hawaii Stroke Research Unit

Publications by our specialists and researchers at the Hawaii Stroke Restoration Research Unit

Paul Smith, MD, MPH
Director, Self-Care & Wellness Center
Sub-investigator, Clinical Research Center
Hawaii Pacific Neuroscience
Clinical Assistant Professor of Medicine (Neurology),
University of Hawai`i John A. Burns School of Medicine
Residency: Occupational and Environmental Medicine, Preventive Medicine
MPH: University of Hawaii
Medical School: University of Hawai`i John A. Burns School of Medicine

Headache & Facial Pain Center & Headache Research Unit

Services Available Honolulu, West Oahu & Neighbor Islands (808) 261-4476

The Hawaii Headache Center is dedicated to relieving the pain and suffering of headache patients and improving their quality of life. Our physicians specialize in the treatment of patients with different headache types. The treatment effectively integrates medical and non-medical therapies, such as alternative medicine, Botox injections, physical therapy, and supportive counseling.

This is an exciting time in headache management with the recent advancements such as anti-Calcitonin Gene Related Peptide (CGRP) therapies and neuromodulation. Anti CGRP therapies are migraine-specific medications targeting the inflammatory mediator involved in generating migraines, and available as both preventive and abortive treatments. Neuromodulation devices are advanced medical tools effective in treating migraines and cluster headaches and can be considered in patients who cannot take medications.

Our Headache Center is recognized nationally for its work not only in providing most advanced cutting edge treatments, but also work with other centers in US and global to offer groundbreaking Clinical Research.

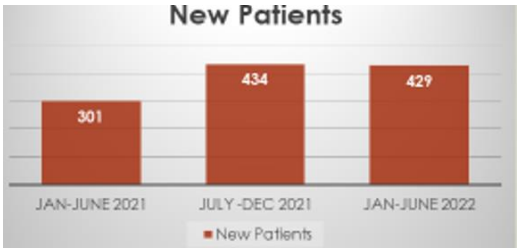
Headache Clinical Trials available at Headache Research Unit

Publications by our specialists and researchers at the Headache Center & Research Unit

Our specialists and staff are passionate about making a difference not just for our patients but for their precious families and caregivers. We understand the challenges of facing these issues and want to be sure you do not feel alone in this journey and have local resources available to you. American Headache Society

Vimala Vajjala, MD

Director, Headache and Facial Pain Center
Sub investigator, Headache Research Unit
Hawaii Pacific Neuroscience
Clinical Educator, University of Hawaii John Burns School of Medicine
Headache Fellowship: University of Arizona, Tucson, AZ
Neurology Residency: Robert Wood Johnson Medical School, New Jersey



Different Experiences in Chronic Migraine Etiology, Treatment and Comorbidities of Hawaii's Ethnic Groups

Michelle Lu, BS[1, 2], Kacey Yamane[1, 3], Dane Keahi[1, 4], Michael Tong[1, 5], Connor Goo[1, 2], Devashri Prabhudesai[6], MS, John J. Chen, PhD[6], Vimala Vajjala MD[1], Enrique Carrazana, MD[1], Jason Viereck, MD, PhD[1], Kore Kai Liow, MD, FACP, FAAN[1, 2]

[1]Headache and Facial Pain Center, Hawaii Pacific Neuroscience, Honolulu, HI, [2]John A. Burns School of Medicine, University of Hawaii, Honolulu, HI, [3]Creighton University, Omaha, NE, [4]Kamehameha Schools, Honolulu, HI, [5]University of Hawaii, Honolulu, HI, [6]JABSOM Biostatistics Core Facility, Department of Quantitative Health Sciences, University of Hawaii John A. Burns School of Medicine, Honolulu, HI

Introduction

Chronic migraine (CM) is a debilitating condition that disturbs patients' lives, impairing socioeconomic functioning. Under-diagnosis and treatment of chronic migraines is prevalent in minority populations, and it is crucial to identify treatment and comorbidity characteristics of CM patients in Hawaii.

Objective

To determine racial differences in CM treatment and comorbidities.

Methods

We performed a retrospective chart review on patients diagnosed with CM at a headache and facial pain center in Honolulu, Hawai'i. 743 patients with a clinic visit from January 27, 2022 to April 27, 2022 were retrieved from eClinicalWorks. Patients without sufficient data or ethnicity were excluded, yielding 298 patients. Socioeconomic demographic variables were collected including race, age, obesity, number of medications and public/private health insurance. The following patient treatment modalities were recorded: Botox, pharmacologic treatment, monoclonal antibodies, and physical therapy.

Results

Native Hawaiian/Pacific Islander patients had the highest prevalence of obesity (60.9%) at >30% compared to other race groups ($p<0.001$). History of diabetes was low across all race groups (7.7%). However, NHPI patients had a significantly higher history of diabetes (14.5%) ($p= 0.004$), hypertension (37.7%), >13% higher than other race groups ($p= 0.01$). Significantly more white patients received Botox as therapy (73.9%), >25% compared to other race groups ($p= 0.02$). Public insurance was significantly more common in NHPI patients (59.4%) followed by other minorities (57.1%), with a 9-11% difference compared to other race groups. ($p=0.02$)

Conclusions

Our findings suggest possible barriers to CM Botox treatment in minority patients. Chronic migraine comorbidities in NHPI patients might also differ from other ethnic groups, which may change CM management in this group.

Hawaii Comprehensive Epilepsy Center and Epilepsy Research Unit have a dedicated multidisciplinary team of epileptologist, neurologists, neurosurgeon neuropsychologists and research team whose sole purpose is to improve the quality of life of patients with epilepsy and seizure disorders from all Hawaiian Islands and the Pacific Rim.

We specialize in helping patients who were told by other doctors that there is nothing else could be done or where the diagnosis is not clear. Our professionals are experts in many diverse areas, from new medication development and state of the art diagnostic procedures including overnight Long Term Video-EEG Epilepsy Monitoring Unit (EMU) to improve the cognitive and behavioral functions in patients with epilepsy, implantation, and programming of innovative neuro device to cutting-edge groundbreaking research therapy.

Our specialists are bound laulima together by a deep, shared sense of teamwork and compassion including our tireless effort dedicated to advance the understanding of epilepsy and collaborating with other world-class leaders in the epilepsy field in developing better treatments for our patients. At the center, our philosophy isn't simply "no seizures, no side effects"; it is a balance that allows children and adults with epilepsy to lead full, high-quality lives as our Ohana.

Our Epilepsy Center is recognized nationally for its work not only in providing most advanced cutting edge treatments, but also work with other centers in US and global to offer groundbreaking Clinical Research at our Epilepsy Research nit.

Epilepsy Clinical Trials available at Epilepsy Research Unit

Publications by our specialists and researchers at the Comprehensive Epilepsy Center

Our specialists and staff are passionate about making a difference not just for our patients but for their precious families and caregivers. We understand the challenges of facing these issues and want to be sure you do not feel alone in this journey and have local resources available to you. Therefore, we work closely with and support Hawaii's local support group. Please visit their website. **Epilepsy Foundation Hawaii**

Kore Kai Liow, MD, FACP, FAAN
Director, Comprehensive Epilepsy Center
Principal Investigator, Epilepsy Research Unit
Hawaii Pacific Neuroscience
Clinical Professor of Medicine (Neurology), Graduate Faculty, Clinical & Translational Research, University of Hawaii John Burns School of Medicine
Fellowship: Clinical Neurophysiology, Epilepsy and Clinical Research, NINDS, NIH
Neurology Residency: University of Utah School of Medicine

Hawaii Video-EEG Epilepsy Monitoring Unit (EMU)

Video-EEG Epilepsy Monitoring Unit offers both EEG (electroencephalography) equipment to monitor brain activity and video cameras to record body movements during a seizure. Video-EEG monitoring is a way of simultaneously recording the brain wave activity (EEG) and the patient's behavior.

This combined approach gives us a much greater understanding of seizures than would using either technique alone. The monitoring allows us not only to diagnose a seizure problem accurately, but also to design the best possible treatment plan. Patients are monitored in the unit throughout the day and night. Patients may stay in the video-EEG monitoring unit for 4 days for recording the electrical impulses (EEG) causing seizures.

Our registered and highly skilled and trained technicians closely monitor our patients and these activity round the clock. Our epilepsy experts are well versed in diverse areas of diagnosis and treatment of seizures and epilepsy, including EEG monitoring, presurgical workup and using new and innovative research medications. Hawaii Pacific Neuroscience is a leading establishment in worldwide epilepsy research. We specialize in helping people with difficult to treat seizures and with unclear diagnosis.

Our physicians believe that treating epilepsy does not end with starting antiseizure medications but ends only with the overall wellbeing of people with epilepsy, including their psychological and social well-being. More information Call the Video-EEG EMU at (808) 564-6147.

Our EEG laboratory is the first epilepsy center in Hawaii recognized and accredited by Neurodiagnostic Credentialing and Accreditation of ABRET (American Board of Registration of Electroencephalographic and Evoked Potential Technologists), the accreditation organization for EEG labs in US based in Springfield, IL, USA. The Laboratory Accreditation Board of ABRET is an accreditation program for laboratories meeting technical standards and demonstrating quality output.

Our EEG & Neurophysiology laboratory and facilities is also the only EEG facility in Hawaii accredited and nationally certified by Cliniclabs Drug Development in New York so it adheres to the high standards needed in performing EEG during clinical research conducted for these data to be submitted to FDA.

Publications by our specialists and researchers at the EEG & Neurophysiology Laboratory

Vimala Vajjala, MD
Director, EEG, Neurophysiology Laboratory, Video-EEG Epilepsy Monitoring Unit
Lead Investigator, Brain Mapping Laboratory
Hawaii Pacific Neuroscience
Clinical Educator, Department of Medicine (Neurology)
University of Hawaii John Burns School of Medicine
Board certified in Neurology, Clinical Neurophysiology and Epilepsy
Epilepsy EEG Fellowship: Barrow Neurological Institute, Phoenix, AZ
Neurology Residency: Robert Wood Johnson Medical School, New Jersey

Investigating the Etiologies of Seizures in Patients Undergoing Video-EEG at Hawaii Comprehensive Epilepsy Center

Julia Jahansooz, MS[1,2], Corey Nishimura[1,3], Uiyeol Yoon[1,4], Taylor Matsubara[1,5], Kyle Ishikawa[2], Connor Goo[1,2], Vimala Vajjala, MD[1], Enrique Carrazana, MD[1], Jason Viereck, MD, PhD[1], Kore Kai Liow, MD, FACP, FAAN[1,2]

[1]Comprehensive Epilepsy Center and Epilepsy Research Unit, Hawaii Pacific Neuroscience, Honolulu, HI, [2]John A. Burns School of Medicine, University of Hawaii, Honolulu, HI, [3]University of Notre Dame, Notre Dame, IN, [4]Hawaii Pacific University, Honolulu, HI, [5]Wheaton College, Norton, MA

Introduction

Video-EEG (vEEG) monitoring is classically used to confirm, diagnose, and classify epilepsy. Collecting data from Hawai'i Comprehensive Epilepsy Center will help to identify risk factors and guide diagnoses in under-represented populations.

Objective

To identify the percentage of patients with vEEG abnormalities, whether they experienced an epileptic or non-epileptic event, and to evaluate patient comorbidities.

Methods

This retrospective chart review analyzed patient data from Hawai'i Comprehensive Epilepsy Center between 2015-2022. 247 individuals ≥18 years old at the time of vEEG were included, totalling 294 vEEG reports. Data consisted of the presence of a vEEG abnormality, type of abnormality, the number of anti-epileptic drugs (AEDs) used, epilepsy risk factors, psychiatric comorbidities, and MRI structural abnormalities.

Results

Of the 294 vEEG reports, 209 (84.6%) were abnormal. Subjects with an abnormal vEEG were significantly more likely to have epilepsy ($p<0.001$) and be taking an AED ($p<0.001$). The 123 (58.9%) epileptic events were subcategorized into focal onset (69.1%), generalized onset (4.1%), and non-diagnostic (26.8%). These individuals were significantly more likely to have epilepsy ($p<0.001$) and be taking an AED ($p=0.002$). The 86 (41.1%) non-epileptic seizures were subclassified as psychogenic (7.0%), physiologic (13.0%), unspecified non-epileptic (68.6%), and non-diagnostic (12.7%). They were significantly more likely to be Asian ($p=0.046$) or Other ($p=0.031$) race, have depression ($p=0.003$), and have anxiety ($p=0.035$).

Conclusions

These findings identified the breakdown of vEEG results in an epilepsy center. Additional findings included an atypical distribution of age at epilepsy diagnosis and an increased likelihood of depression and anxiety in patients with non-epileptic seizures.

Hawaii Parkinson's Disease and Movement Disorders Center provides comprehensive, compassionate and timely treatment to patients with Parkinson's disease, ataxia, dystonia, essential and other tremors, Lewy body dementia, Frontotemporal dementia, Huntington's Chorea, motor stereotypies and other movement and imbalance disorders. **Services available Honolulu, West Oahu & Neighbor Islands (808) 261-4476**

Our goal is to offer knowledge and symptom control to help patients feel empowered and overcome barriers to living life to the fullest. Our multidisciplinary team of specialists includes neurologists, neurosurgeons and rehabilitation doctors, lifestyle wellness physicians, and other areas work together to determine the most appropriate treatment for your condition. You may work with rehabilitation specialists to manage problems with walking, speaking, swallowing and other aspects of daily life. Your treatment team also includes social workers, physical, occupational and recreational therapists to help you manage Parkinson's disease.

Our Parkinson's Disease and Movement Disorders Center is recognized national for our work in Parkinson's and Movement Research Unit and is offer our patients groundbreaking research.

Clinical Trials available at Hawaii PD and Movement Research Unit

Publications by our specialists and researchers at the PD & Movement Disorders Center

Our specialists and staff are passionate about making a difference not just for our patients but for their precious families and caregivers. We understand the challenges of facing these issues and encourage our patients to seek out credible resources with local and national support groups. Please visit their websites.

Jason Viereck, MD, PhD
Director, Parkinson's Disease and Movement Disorders Center
Sub investigator, Parkinson's Research Unit
Hawaii Pacific Neuroscience
Clinical Assistant Professor of Medicine, Graduate Faculty, Clinical & Translational Research, University of Hawaii John Burns School of Medicine
Neurology Residency: Boston University Medical School, Boston

COVID-19 Impact on Depressive Symptomatology Among the Parkinson's Disease Population within Hawai'i

Ana Tavares[3], Richard Rista[4], Brennan Lee[2], ZoeAnn Kon[2], Connor Goo[2], Enrique Carrazana, MD[1], Jason Viereck, MD, PhD[1], Kore Kai Liow, MD, FACP, FAAN[1,2]

[1]Parkinson's and Movement Disorder Center & Parkinson's Research Unit, Hawaii Pacific Neuroscience, Honolulu, HI, [2]John A. Burns School of Medicine, University of Hawaii, Honolulu, HI, [3]Chaminade University of Honolulu, Honolulu, HI, [4]Creighton University School of Medicine, Phoenix, AZ

Introduction

In patients with Parkinson's disease (PD), depression is the most common psychiatric comorbidity and often under-diagnosed and under-recognized. Hawaii's diverse cultural landscape is unlike that of other locations which may yield different scientific findings and outcomes. Unfortunately, a study that identifies the correlation between depression and severity of PD has never been done here before.

Objective

To identify the prevalence of depression in the PD population at Hawaii Pacific Neuroscience, to determine if positively correlated with PD severity, and to investigate the impact the COVID-19 pandemic.

Methods

We retrospectively reviewed 86 consecutive patients with PD from Hawai'i with a diagnosis of PD from June, 18th 2017 to June 18th, 2022. Depression was defined as a recorded PHQ-2 score of 3 or more during or after the year 2020 or having a diagnosis of depression. Severity of PD was measured by medication dosage amount and frequency, and presence of Dementia. LEDs were calculated based on a previously published algorithm from a systematic review by Tomlinson et al (2010).

Proposed Results

There was no significant difference in PHQ-2 scores from before COVID-19 (M = 0.93, SD = 1.79) to during COVID-19 (M = 0.84, SD = 1.92) via paired sample t-test. The mean decrease in PHQ-2 scores during COVID-19 was 0.09 (95 CI: -0.17-0.36).

Conclusions

While our results suggested that there were no significant differences in PHQ-2 scores from before the pandemic to now, future researchers should continue to explore potential protective factors in this population here in Hawaii.

Hawaii Neuro COVID Clinic

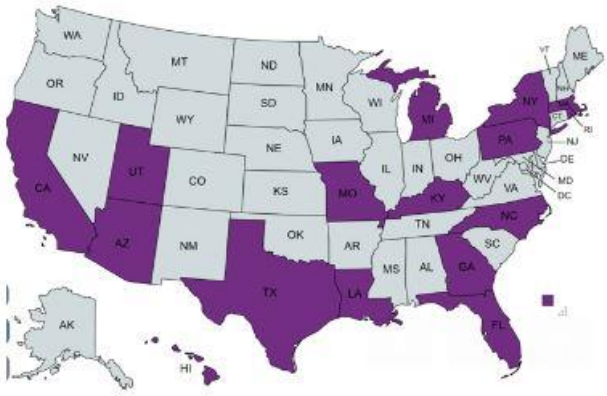
NIH-NYU NeuroCOVID DataBank-Biobank

(Funded by NIH, NINDS Grant 3UL1TR002541-01S1)

As of April 2022, Hawaii Neuro COVID Clinic is 1 of 16 US sites selected by NIH to serve as a participating site for the NeuoCOVID Project.

The NeuroCOVID project has been initiated at New York University Langone Health to create and maintain a national resource documenting and studying neurological complications of COVID-19 funded by NINDS, NIH National Center for Advancing Translational Sciences through its Clinical and Translational Science Awards Program.

COVID-19 Neuro Databank: The databank will collect information on adults, children with confirmed COVID-19 infection to assess neurological symptoms such as fatigue, brain fog, headache, loss of smell & taste, pain, numbness, autonomic dysfunction and others.



Hawaii Neuro COVID Clinic Interdisciplinary Specialists & Services

Neurologist – Specializes in concentration, attention, and cognitive symptoms
Neurologist – Specializes in headache, facial & neck pain
Neurorehabilitation – specializes in pain, muscle weakness and cognitive evaluation rehabilitation
Neurorehabilitation – specializes in rehabilitation to minimize on-going damage and restore neuro functions
Sleep specialist – specializes in evaluating “Covidsomnia”, restless leg, sleep disorders associated with COVID
Wellness Physician - board certified in lifestyle medicine specializing in brain health

The goal is to provide patients with comprehensive neurologic long term whole-person health care. Based on the findings during the visit, the clinic may recommend further testing with other specialists, physical, occupational, and cognitive therapists. Patients visiting the clinic can expect a detailed neurologic history, physical & neurological examination which may include additional cognitive screenings, EEG, EMG and MRI brain.

Director, Hawaii Neuro COVID Clinic,
Principal Investigator, Hawaii NeuroCOVID Research Lab (NIH Funded)
Clinical Professor of Medicine (Neurology)
Graduate Faculty, Clinical & Translational Research
University of Hawai`i John Burns School of Medicine

COMPREHENSIVE MS CENTER & MS RESEARCH UNIT

Services Available Honolulu, West Oahu & Neighbor Islands

(808) 261-4476 *Online Referral Form*

The Hawaii Comprehensive MS Center at Hawaii Pacific Neuroscience cares for more MS patients than any other centers in Hawaii. The center leverages a multidisciplinary approach of neurologists, rehabilitation specialists, lifestyle wellness physicians to ensure that MS patients get the benefit of a comprehensive holistic approach including:

Comprehensive Holistic Neurologic, Medical and Lifestyle Care includes:
Addressing pain
Restore function and quality of life
Addressing other symptoms such as fatigue, incontinence
Access to nutrition counseling and general wellness
Ongoing Neurorehabilitation efforts with PT, OT, Speech
Cognitive assessments
Comprehensive Neurological evaluation
Onsite Diagnostic services including onsite 3T MRI, Labs, Floro Xray for Spinal Tap
Disease-modifying therapy
Infusion unit for IV Therapies
Research Options

Clinical Trials available at Hawaii MS Research Unit

Publications by our specialists and researchers at the Hawaii MS Research Unit

Our specialists and staff are passionate about making a difference not just for our patients but for their precious families and caregivers. We understand the challenges of facing these issues and encourage our patients to seek out credible resources with local and national support groups. Please click on their website.

National Multiple Sclerosis Society

Jason Viereck, MD, PhD
Director, Comprehensive MS Center
Sub investigator, MS Research Unit
Hawaii Pacific Neuroscience
Clinical Assistant Professor of Medicine, Graduate Faculty, Clinical & Translational Research, University of Hawaii John Burns School of Medicine
Neurology Residency: Boston University Medical School, Boston

Psychiatric Disorders Associated with Comorbid Autoimmune Diseases in Multiple Sclerosis

Shin Chang[1,2], Donovan Roy[1,3], Jenna Okazaki[1,4], Plyfaa Suwanamalik-Murphy[1,5], Masako Matsunaga, PhD[2], Connor Goo[1,2], Enrique Carrazana, MD[1], Jason Viereck, MD, PhD[1], Kore Kai Liow, MD, FACP, FAAN[1,2]

[1]Comprehensive MS Center and MS Research Unit, Hawaii Pacific Neuroscience, Honolulu HI, [2]John A. Burns School of Medicine, University of Hawaii, Honolulu, HI, [3]University of Hawaii at Manoa, Honolulu, Hawaii, [4]University of Portland, Portland, OR, [5]University of California, Davis, CA

Introduction

Multiple Sclerosis (MS) is an autoimmune disease of the CNS that has a high prevalence of autoimmune and psychiatric comorbidities. Previous studies have not addressed how these comorbidities relate to each other.

Objective

To assess the relationship between comorbid autoimmune diseases and psychiatric disorders in MS, and to elucidate possible environmental factors or health disparities within this relationship.

Methods

A retrospective case-control study was conducted using patient records at the Hawaii Pacific Neuroscience in Honolulu, Hawaii. Sociodemographic variables, clinical characteristics, and medical comorbidities were collected. Variables between the autoimmune disease status groups were compared using the Wilcoxon rank sum test for continuous variables and Pearson's Chi-squared test or Fisher's exact test for categorical variables. A p-value less than 0.05 was considered statistically significant.

Results

Of the 109 patients analyzed, 30 (27.5%) patients with MS were found with comorbid autoimmune diseases (ADs). They had a significantly higher prevalence of depression (50% vs. 25%; p = 0.0075) and, although not significant, anxiety (30.0% vs. 21.5%; p=0.35). Comorbid ADs in MS did not seem to be associated with sociodemographic factors, but did appear to be associated with a significantly higher prevalence of health disparities, such as asthma (26.7% vs. 10.1%; p=0.038) and coronary artery diseases (13.3% vs. 2.5%; p=0.048).

Conclusions

Our findings suggest that comorbid ADs in MS are associated with increased risks of depression and other debilitating health disparities. This result can influence treatment options and inter-specialty care management to improve the outcomes in MS patients with comorbid ADs.

Neuromuscular Rehabilitation Center & Neuromuscular Research Unit

Online Referral Form

Hawaii Pacific Neuroscience Neuromuscular Rehabilitation Center is a leader in providing the latest in neuromuscular evaluation and rehabilitation through an interdisciplinary approach with emphasis on quality of life and independent care. Neuromuscular conditions affect millions of Americans each year and can have a progressively debilitating course robbing an individual of their quality of life and independence.

Symptoms common to neuromuscular disorders include:
Muscle weakness, Muscle loss
Movement issues
Balance problems
Numbness, tingling or painful sensations
Droopy eyelids
Double vision
Trouble swallowing
Trouble breathing

Neuromuscular disorders include:
Amyotrophic lateral sclerosis (ALS)
Charcot-Marie-Tooth disease
Muscular dystrophy
Myasthenia gravis
Myopathy
Myositis, including polymyositis and dermatomyositis
Peripheral neuropathy
Spinal muscular atrophy

Through a collaborative team of neurologist, physical medicine and rehabilitation, internist, physiatrist, we will utilize the latest in diagnostic and therapeutic interventions to preserve and improve your quality of life.

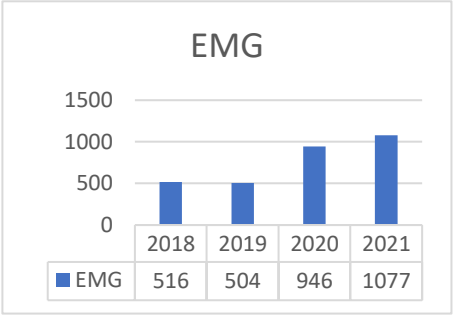
Your team of experts will manage you from inpatient to outpatient and includes the latest in EMG/electrodiagnostic evaluations, therapy, medications, Botox, Neuromodulation and other interventional care. Our Neuromuscular Rehabilitation Center has been selected as a national MGFA (Myasthenia Gravis Foundation of America) Partner.

Clinical Trials available at Neuromuscular Research Unit

Publications by our specialists and researchers at the Neuromuscular Center

Our specialists and staff are passionate about making a difference not just for our patients but for their precious families and caregivers. We understand the challenges of facing these issues and want to be sure you do not feel alone in this journey and encourage you to contact local resources available to you.

Jason Chang, MD
Director, EMG & Neuromuscular Rehabilitation Center
Sub investigator, Neuromuscular Research Unit
Hawaii Pacific Neuroscience
Clinical Assistant Professor of Medicine, University of Hawaii John Burns School of Medicine
PM & R Residency: University of California School of Medicine, Irvine



Investigating the Neuropathic Electromyography Findings in COVID-19 Patients

Nathan Kim[1,2], Anna Fan[1,3], Matthew Calumpit[1,4], Renzelle Ponce[1,5], Connor Goo[1,2], Jason Chang, MD[1], Enrique Carrazana, MD[1], Jason Viereck, MD, PhD[1], Kore Kai Liow, MD, FACP, FAAN[1,2]

[1]Neuromuscular Rehabilitation Center & Neuromuscular Research Unit, Hawaii Pacific Neuroscience, Honolulu, HI, [2]John A. Burns School of Medicine, University of Hawaii, Honolulu, HI, [3]University of Hawaii at Manoa, Honolulu, HI, [4]Drexel University, Philadelphia, PA, [5]Hawaii Pacific University, Honolulu, HI

Introduction

Previous studies have found evidence of myopathic electromyography (EMG) changes in critically ill COVID-19 patients. However, there is limited research on the neuropathic EMG changes involved in COVID-19 patients. This study aims to evaluate the neuropathic EMG findings in COVID-19 patients in Hawai‘i.

Methods

A single-centered, retrospective chart review was performed using the eClinicalWorks electronic medical record data of patients treated at Hawaii Pacific Neuroscience between 2019-2022. Information on patient demographics, chief complaint, EMG findings, past medical history, and neurological review of systems was collected.

Results

Among 61 patients diagnosed with COVID-19, 7 (11.5%) had an EMG conducted following COVID-19 diagnosis. 5 (71.4%) were males and 2 (28.6%) were females. 4 (57.1%) patients identified as Caucasian, 2 (28.6) as Native Hawaiian/Pacific Islanders, and 1 (14.3%) as Hispanic. EMG findings showed 6 (71.4%) patients presented with radiculopathy, 2 (28.6%) with polyneuropathy, 0 (0%) with myopathy, 0 (0%) with plexopathy, 4 (57.1%) with entrapment neuropathies, and 1 (14.2%) with Guillain-Barre syndrome (GBS).

Conclusions

Radiculopathy, polyneuropathy, and entrapment neuropathy were the most common EMG findings observed. One patient with a severe case of COVID-19 displayed several EMG findings including multilevel bilateral lumbar motor polyradiculopathy, acute motor and sensory axonal neuropathy, and GBS. Other studies have shown EMG findings of GBS in COVID-19 patients. Thus, GBS may be a potential EMG finding that may be linked to severe cases of COVID-19. However, further research is needed to determine the strength of this correlation.

Hawaii Memory Disorders Center is the only facility in Hawaii with a dedicated multidisciplinary team of clinical neurologists, research neurologists, cognitive rehabilitation specialists and brain health and wellness specialists trained in diagnosing and treating memory disorders and dementia.

The evaluation to diagnose memory disorders and dementia may include an MRI of the Brain, EEG, laboratory tests and neuropsychology testing. Each patient is unique and medical workups will vary depending on the patient's medical history and clinical presentation. Once the evaluation for the patient is complete, the multidisciplinary team will discuss the findings with the patient and family.

Together we formulate an individualized plan for treatment and management. Plans can include medications and lifestyle recommendations. Teaching includes nutritional counseling, physical exercise, and brain stimulation exercises that focus on improving brain health. Memory Disorders Center staff are dedicated to continued support those living with memory disorders. Care for the caregivers is a vital part of the Memory Disorders Center program and includes education, counseling, coordination of care and access to resources in the community.

The Memory Disorders Center and Alzheimer's Research Unit is a part of the global network of top neuroscience centers involved in Alzheimer's research funded by NIH and other organizations. Our Neuroscience Center of Excellence is recognized nationally for its work not only in providing most advanced cutting edge treatments, but also work with other centers in US and global to offer groundbreaking Clinical Research.

Clinical Trials available at Hawaii Memory Disorders Center & Alzheimer's Research Unit

Publications by specialists & researchers at the Hawaii Memory Disorders Center and Alzheimer's Research Unit

Our specialists and staff are passionate about making a difference not just for our patients but for their precious families and caregivers. We understand the challenges of facing these issues and want to be sure you do not feel alone in this journey and have local resources available to you. Therefore, we work closely with and support Hawaii's local support group.

Kore Kai Liow, MD, FACP, FAAN
Director, Memory Disorders Center
Principal Investigator, Alzheimer's Research Unit
Hawaii Pacific Neuroscience
Clinical Professor of Medicine (Neurology), Graduate Faculty, Clinical & Translational Research, University of Hawaii John Burns School of Medicine
Neurology Residency: University of Utah School of Medicine
Fellowship: Cortical Neurophysiology & Clinical Research, NINDS, NIH

Barriers & Methods to Improve Alzheimer's Disease Clinical Trial Participation Among Asian American and Native Hawaiian Populations

Anson Y Lee[1,2], Darrell Guittu[1,3], Rexton Suzuki[1,4], Lauren Pak[1,5], Kyle M Ishikawa, MS[2,6], Connor Goo[1,2], John J Chen, PhD[2,6], Enrique Carrazana, MD[1], Jason Viereck, MD, PhD[1], Kore Kai Liow, MD, FACP, FAAN[1,2]

[1]Memory Disorders Center & Alzheimer's Research Unit, Hawai'i Pacific Neuroscience, Honolulu, HI, [2]John A. Burns School of Medicine, University of Hawai'i, Honolulu HI, [3]University of Hawai'i at Mānoa, Honolulu HI, [4]Creighton University, Omaha NE, [5]University of Oregon, Eugene OR, [6]JABSOM Biostatistics Core Facility, Department of Quantitative Health Sciences, University of Hawaii John A. Burns School of Medicine, Honolulu HI

Objective

Understanding barriers to Alzheimer's Disease (AD) clinical trial participation in Asian and Native Hawaiian (NH) patients diagnosed with AD or mild cognitive impairment (MCI) at a single institution.

Methods

This retrospective study included 187 (134 AD, 53 MCI) patients with a Mini-Mental State (MMSE) score ≥14 between 01/2022-06/2022. A 15-question telephone survey was conducted assessing demographics, barriers to participation, and improvement methods. Descriptive statistics were performed using Wilcoxon rank-sum test for continuous variables and Fisher's exact test for categorical variables. Incomplete surveys were included for analysis.

Results

49 patients responded (29 AD, 20 MCI) with 47 surveys incomplete having one or more questions unanswered. The mean patient age was 77 years with 51% being male and the mean MMSE score being 23.2. Surveys identified that the decision to participate in trials to help others differed by race (91% White, 80% NH, 29% Asian; p=0.023). Additionally, 5.6% Asian, 22% NH, and 32% of White patients surveyed were in an active AD clinical trial. 30% of Asian and 80% of NH patients reported the main barrier to participation was a lack of information about clinical trials. Accordingly, additional trial information given to family members (64% Asian, 88% NH) and patients (64% Asian, 88% NH) were listed as the most popular trial improvement methods.

Conclusions

A deficiency in information about AD clinical trials is the primary barrier to participation amongst Asian and NH patients. Increased outreach and education in these communities should be pursued to improve rates of trial participation.

Hawaii Center for NEUROMODULATION

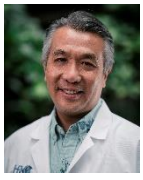
Services available Honolulu, West Oahu & neighbor Islands
(808) 261-4476

Neuromodulation is technology that acts directly upon nerves. It is altering or modulating nerve activity by delivering electrical impulses directly to a target area. Neuromodulation can be life changing and enhance the quality of life in individuals who suffer severe chronic neurological conditions such as persistent pain; spinal injury; spasticity; movement disorders; epilepsy; Parkinson's disease, tremors and stroke.

Neuromodulations Therapies offered in Hawaii:
Vagal Nerve Stimulation (VNS) – Epilepsy, Stroke Recovery
Deep Brain Stimulation (DBS) – Parkinson's disease & Epilepsy
Hypoglossal Nerve Stimulator (HNS) - Obstructive Sleep Apnea
Spinal Cord Stimulation (SCS) – Failed Back Surgery, MS, Complex Regional Pain Syndrome, Chronic Painful Neuropathy or Plexopathy

Neuromodulation Research Modalities in Hawaii
Brain Computer Interface (BCI) & Neural Network Research Lab.
Neurotechnology & AI (Artificial Intelligence) Research Lab.

Hawaii Center for Neuromodulation at Hawaii Pacific Neuroscience in collaboration other neuromodulations centers in US as well as experts in neurology, neurosurgery, biomedical engineering, neuroradiology, international partners work together to provide cutting edge neuromodulation therapies to patients in Hawaii who could benefit from them and also conduct active research to advance understanding of how neuromodulation can drive "bench to bedside" translational science to benefit patients in Hawaii and worldwide suffering from chronic refractory neurological conditions.



Hawaii Center for Neuromodulation is directed by Kore Kai Liow, MD, Neurologist and Clinical Professor of Medicine (Neurology), University of Hawaii John Burns School of Medicine who has successfully implanted over 300 patients with neuromodulation devices over the last 25 years and have seen how they positively changed their lives. He works and collaborates with a team of neuroscience specialists including neurologists, pain specialists, neurosurgeons, neurorehabilitation specialists to choose the right treatment plan, which may include medications and counselling, based on individual patient's needs and medical situation.

Hawaii Center for Neuromodulation at Hawaii Pacific Neuroscience
Call or text (808) 261-4476, Research (808) 564-6141 Online Referral Form

Quality of Life in Patients with Refractory Epilepsy with Implanted Vagal Nerve Stimulation

Ana Tavares[3], Richard Rista[4], Brennan Lee[2], ZoeAnn Kon[2], Connor Goo[2], Enrique Carrazana, MD[1], Jason Viereck, MD, PhD[1], Kore Kai Liow, MD, FACP, FAAN[1,2]

[1]Center for Neuromodulation, Hawaii Pacific Neuroscience, Honolulu, HI, [2]John A. Burns School of Medicine, University of Hawaii, Honolulu, HI, [3]Chaminade University of Honolulu, Honolulu, HI, [4]Creighton University School of Medicine, Phoenix, AZ

Introduction

Neuromodulation-based therapies such as vagal nerve stimulation (VNS) are used for patients with refractory epilepsy. Many studies have shown that VNS reduces seizure frequency,[1] and the impact on quality of life (QOL) in patients implanted with VNS treatment in US cities.[6-8] However, the efficacy, utilization and QOL of life in VNS patients has not been looked at in Hawaii.

Objective

To evaluate the efficacy, utilization, and QOL impacts of patients implanted with VNS at Hawaii Comprehensive Epilepsy Center.

Methods

We retrospectively reviewed 37 patients who underwent VNS therapy within the past 10 years. Of these, twelve completed the interview. The mean age of participants was 45.25 years (range of 11-73 years) with the majority being female (83.3%). Patients with VNS identified at our institution completed the Quality of Life in Epilepsy-10 (QOLIE-10) via voluntary telephone survey.

Results

Of these, the mean QOLIE-10 score was 29.33, with a minimum and maximum of 21 and 44 respectively. By choosing a QOLIE-10 total score of > 25 as an impaired QOL, eight (66.67%) of participants fulfilled this criterion. Majority of participants (83.33%) reported a reduction in seizures since implantation and all participants tolerated the device.

Conclusions

Many studies reported favorable seizure outcomes to be significantly related to QOL. Here, majority (83.33 %) reported a seizure reduction. Despite the significant improvements in seizure reduction, only four (33.3%) reported a good QOL. Given the deleterious effects of recurrent seizures on the QOL in patients with refractory epilepsy, improved QOL metrics is an important treatment goal in this disorder.

HAWAII PACIFIC NEUROSCIENCE

TEN REMINDERS

1. WE ARE HERE TO CARE FOR PEOPLE
2. WE SHOW WE CARE WITH OUR ACTIONS, WORDS AND ATTITUDE
3. WE DO EVERYTHING WITH EXCELLENCE
4. WE STRIVE TO IMPROVE PEOPLE'S LIVES
5. EACH AND EVERYONE PLAY AN IMPORTANT ROLE
6. WE LOOK OUT FOR EACH OTHER
7. WE DEMONSTRATE HONOR, INTEGRITY AND RESPECT IN WHAT WE DO
8. WE MAINTAIN A CULTURE AND ENVIRONMENT CONDUCIVE FOR HEALING
9. WE MAINTAIN HEALTHY BOUNDARIES
10. WE ARE GOOD STEWARDS OF OUR RESOURCES

"For we are God's workmanship, created in Christ Jesus to do good works,

Which God prepared in advance for us to do." Ephesians 2:10