

PHYSIATRY IN MOTION

Winter '23-'24

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...“INSIDE”!



**COVER ART:
COLETTE PIASECKI-MASTERS, MD**



Association of Academic Physiatrists

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A LETTER FROM THE EDITOR

S. RAZA HUSAIN, DO

Dear Readers,

It is my pleasure to welcome you to the Winter 2023-2024 issue of *Physiatry in Motion*, the official newsletter of the Association of Academic Physiatrists Resident/Fellow Council (AAP RFC).

Our theme for this issue was “Physiatry Inside” – inspired by our season of publication and the dynamic world of inpatient rehabilitation. Enclosed, you will find a series of articles exploring topics such as the latest treatment modalities, complementary therapies, strategies in shared decision-making, and interdisciplinary collaboration.

We believe that that Physiatry in Motion is more than just a newsletter; it is a platform to promote learning and collaboration within our community. We hope that this content within will inspire you, encourage innovation, and continue to help our field grow in new ways.

I would like to express my gratitude to each of our contributors for their time. Your passion for physiatry and commitment to improving the lives of our patients is unmatched. I would also like to extend a special thanks to Dr. Colette Piasecki-Masters for the incredible watercolor that graces our cover.

This issue also marks the conclusion of my term on the RFC. It has been my pleasure to serve you for the past year, and I hope that you enjoyed both our print and podcast offerings. I would like to thank every member of the Digital Outreach Subcommittee for his or her time and hard work. I am incredibly proud of what we were able to achieve.

Thank you again for taking the time to join us for this issue of *Physiatry in Motion*. Whether you are in practice, in training, applying, or just someone interested the world of rehabilitation medicine, we hope you enjoy reading it as much as we did putting it together.

Warmest Regards,

S. Raza Husain, DO

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EXPLORING COMPLEMENTARY AND ALTERNATIVE MEDICINE IN PHYSIATRY: ENHANCING PATIENT CARE

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In the field of Physical Medicine and Rehabilitation (PM&R), a significant number of patients with chronic conditions come in with the hope of finding relief. Integrative medical approaches have seldom been used among patients experiencing such conditions as the potential benefits of complementary and alternative medicine (CAM) have often been overshadowed by more traditional procedural and pharmaceutical treatments. This oversight arises from the limited knowledge that both physicians and patients possess regarding the advantages CAM can offer. As the potential benefits of CAM become clearer, it is evident that its integration into PM&R practices could profoundly enhance patient outcomes and satisfaction.

Navigating Chronic Conditions:

Chronic conditions, persistently affecting patients both physically and emotionally, present intricate challenges for patients and healthcare providers alike. The extended duration of these conditions often leads to feelings of frustration and hopelessness as patients strive to discover treatments tailored to their individual needs. This is precisely where CAM steps in, encompassing a broad spectrum of approaches that extend beyond the scope of conventional Western medicine. From nutritional interventions to hands-on therapies and mind-body practices, CAM encompasses a variety of modalities that allow physiatrists to provide a more personalized and holistic approach to patient care.

Understanding CAM Categories:

The National Center for Complementary and Integrative Health (NCCIH) classifies CAM approaches into distinct categories, providing a structured framework for comprehending the diverse tools available for holistic patient care¹. These categories include nutritional interventions designed to optimize dietary choices, physical techniques

addressing musculoskeletal issues and mobility, psychological interventions supporting mental well-being, and integrated approaches that amalgamate different modalities for comprehensive healing. These comprehensive modalities encompass practices like Chinese medicine, acupuncture, and yoga, among others.

Addressing Long COVID and Innovative Approaches:

The emergence of Long COVID has underscored the need to explore innovative strategies to alleviate the debilitating symptoms experienced by affected patients. Symptoms such as brain fog, persistent pain, and overwhelming fatigue are common among Long COVID patients. To tackle these challenges, some medical institutions have embraced approaches like integrative medical group visits (IMGVs). These group sessions create a supportive environment where patients share experiences and learn from one another during their journey towards recovery. IMGVs have gained popularity in COVID Recovery Clinics across the country.

IMGVs exemplify how CAM can seamlessly integrate into PM&R practices. These sessions incorporate a wide array of integrative medical modalities, including breathing techniques, mindfulness practices, dietary adjustments, and yoga. By weaving together these distinct approaches, patients are equipped with a holistic toolkit to manage their symptoms and enhance their overall quality of life. Although a definitive cure for Long COVID remains elusive, effective symptom management can substantially transform the lives of these patients.

Exploring Osteopathic Medicine and Yoga:

Osteopathic medicine, a prominent component of CAM, exhibits promise in pain management, particularly when administered early in the course of chronic conditions. Employing hands-on techniques

that address musculoskeletal issues, osteopathic interventions aim to restore balance and functionality to the body². Research demonstrates that osteopathic therapies can lead to considerable reductions in pain and disability, particularly for conditions like low back pain.

Likewise, practices such as yoga, emphasizing physical postures, balance, and flexibility, hold potential for enhancing musculoskeletal strength and overall well-being, particularly among older adults. This holistic improvement can help patients regain their physical and mental health without resorting to medications and their potential side effects³.

Acupuncture: A Promising CAM Modality:

Another promising CAM modality is acupuncture, which has garnered attention for its ability to effectively manage chronic pain, including lower back pain. Acupuncture boasts a solid safety profile and is cost-effective, offering short-term benefits in pain relief and improved functionality when compared to conventional interventions or no treatment at all. Consistent systematic reviews highlight acupuncture's positive impact on chronic lower back pain, underscoring its potential as an adjunctive therapy in PM&R⁴.

Conclusions:

The integration of complementary and alternative medicine into the realm of psychiatry holds great promise for enhancing patient care and outcomes. By embracing CAM modalities, psychiatrists can tap into a diverse spectrum of approaches catering to the unique needs of patients dealing with chronic

conditions including Long COVID. As the healthcare landscape evolves, rigorous research and clinical evaluation of these alternative approaches are paramount. This will enable us to grasp their full scope, efficacy, and potential to revolutionize patient care within the domain of psychiatry.

Recognizing the untapped potential of CAM and its capacity to deliver personalized, holistic, and patient-centered care marks a significant stride towards improving the lives of individuals navigating chronic conditions. As healthcare professionals delve deeper into these alternative approaches, they embark on a journey to redefine the benchmarks of patient care, ushering in a new era of well-being and elevated quality of life.

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EXTRACORPOREAL SHOCK WAVE THERAPY FOR THE TREATMENT OF MUSCULOSKELETAL CONDITIONS

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Extracorporeal shock wave therapy (ESWT) is a non-invasive form of treatment that was initially developed from its use in managing urologic conditions through lithotripsy [1]. ESWT has since been adapted to treat a wide variety of orthopedic conditions. The principles of ESTW rely on harmonic oscillations, which are mechanical waves that propagate through water and tissue that change the density of that medium through compression and expansion [2]. This produces positive and negative phases of the shockwave. The positive phase produces direct mechanical forces, while the negative phase generates cavitation and gas bubbles that subsequently implode at high speeds, generating subsequent shockwaves [3]. Compared to ultrasound, shockwave pressures are 1000 times greater [4]. The pressure changes lead to a physiologic cascade at the cellular level [5].

Although the exact mechanism by which ESWT promotes healing is not completely understood, studies have shown several mechanisms of proliferative changes. ESWT has been show to increase levels of growth factors leading to collagen synthesis and tenocyte proliferation [6, 7]. The shockwaves may also cause microdisruption of minimally vascularized tissue that then induces neovascularization [8]. Lastly, ESWT may promote bone growth by inhibiting osteoclasts and differentiating osteoblasts [2].

One clinical application for ESWT is for the treatment of pain. Two hypotheses exist for analgesia. The first is that the shockwaves degenerate nerve fibers from small immunoreactive neurons. The second is that shockwaves release endorphins [9]. In one metanalysis assessing ESWT for myofascial pain syndrome, the authors demonstrated that this therapy reduces pain, increases the pain threshold, and improves functionality compared with other

interventions such as ultrasound and electroacupuncture. Although patients reported a clinical benefit, this was not superior to dry needling or corticosteroid injection [10]. This suggest that ESWT may be a reasonable option for myofascial pain if other treatment options are contraindicated.

ESWT has been well studied in treating tendinopathies, particularly Achilles tendinopathy with variable results. One study demonstrated that 64% of patients experienced complete or marked functional improvement in chronic insertional Achilles tendinopathy [11]. However, ESWT may not be superior to other therapies including platelet-rich plasma injections, peritendinous hyaluronan injections or endoscopy-assisted radiofrequency ablation [8]. Contrasting ESWT outcomes seem to result from the complexity of Achilles tendon dysfunction, differences in shock wave application, and different methods of therapy.

A more unique application for ESWT is in the management of post stroke spasticity. One of the proposed mechanisms for the effect of shockwaves on spasticity is increasing nitric oxide, a chemical that is involved in neurotransmission, memory formation, and synaptic plasticity in the central nervous system, and it plays an important role in the formation of neuromuscular junctions in the peripheral nervous system [12]. A metanalysis demonstrated that ESWT significantly improved modified Ashworth scale scores immediately and at 4 week follow up [13]. However, evidence is of limited quality and further well-designed randomized clinical trials are required.

While ESWT has been attempted for management of musculoskeletal conditions as an alternative therapy, it has its own complications. Common side effects include petechial bleeding at the site of therapy and pain post-procedure. More severe adverse events reported include hematoma and tendon damage due

to an excess amount of energy [2]. Nevertheless, ESWT has been shown to be a relatively safe alternative to treating musculoskeletal conditions [4,8,10].

In summary, many publications have proven the efficacy and safety ESWT for the treatment of musculoskeletal disorders, including others not mentioned in this brief review. ESWT should be considered in cases where conventional treatments prove to be of little success, especially in patients who prefer non-operative alternatives.

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SUPPORTED DECISION-MAKING: A MAGNIFICATION OF AUTONOMY-FIRST PHYSIATRY

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Most people engage in some form of Supported Decision-Making (SDM) in their day-to-day life. Everyday SDM could look like asking a spouse, partner, or trusted peer for advice on an important decision. A psychiatrist could even consider a consultation with another specialty as a type of SDM. For people with intellectual or developmental disability (I/DD) who personally elect to benefit from decision-making assistance, SDM presents a less restrictive alternative to legal guardianship. Psychiatrists can facilitate formalizing the SDM process by advising it as an alternative to legal guardianship, thereby improving quality of life by promoting each individual's right to self-determination.

The Value of Supported Decision-Making

Medical-legal literature describes decision-making capacity as an individual's ability to demonstrate four key components: Comprehension of presented information, appreciation of the information's relevance to their situation, comparison of risks and benefits based on information, and communication of a desired choice based on the information. People with intellectual, cognitive, or developmental disabilities may experience limited decision-making capacity through a spectrum of static or dynamic impairments to any of these domains.¹ When an individual demonstrates a limitation to a decision-making capacity domain, legal and medical professionals may recommend guardianship for the affected individual to promote their safety. For over 100 years, legal institutions in the United States have approached limited decision-making capacity by appointing guardians as substitute decision-makers. In addition to losing voting rights, individuals under legal guardianship lose their rights to make choices about their medical care, where they go, and with whom they spend time. When the 1990 Americans with Disabilities Act enhanced the voices of people

with disabilities regarding their autonomy, many expressed how the loss of self-determination under guardianship infantilizes and reduces the quality of life for people who do not absolutely require guardianship. While assumed by the public to be benign protection of marginalized groups, the broad and restrictive nature of guardianship is not a panacea to resolve impaired decision-making capacity.^{2,3}

As individuals with I/DD transition into adulthood, their families are often presented with guardianship as the only option to keep their loved one safe without recognizing the legal rights they lose under guardianship.⁴ Decision-making capacity is not binary and exists across a spectrum of unique ability levels, so decision-making supports should reflect this range. As an alternative to the dichotomy of choosing guardianship or no decision-making support, SDM instead creates a spectrum of decision-making support options. Stakeholders collaboratively achieve the autonomy-preserving design of SDM by implementing supporters who provide decision-making assistance to the individual with I/DD, referred to as the decision-maker. Supporters in SDM are voluntary individuals the decision-maker selects to bridge impairments in decision-making capacity. For example, a decision-maker wants to move to a new residence but needs help determining some details of how finances impact the decision. Instead of deciding for them, an SDM supporter could help parse the information by assisting the decision-maker in creating a budget based on expenses and income. Then, the supporter could narrow down residence options that fit the budget that the decision-maker could then choose from, making an informed choice while preserving the decision-maker's autonomy.

Unlike legal guardianship, which requires official medical evaluation and legal documentation before a

judge appoints a substitute decision-maker, SDM is not a legally binding agreement. The SDM agreement formalizes the relationship between the supporters and the decision-maker to maximize autonomy. If a chosen supporter can no longer provide assistance, the decision-maker can freely choose to dissolve the agreement and select a new supporter. On the other hand, guardianship requires further legal efforts to dissolve and may become complex with competing conflicts of interest from involved parties.^{1,5} With the added flexibility provided by SDM, decision-makers, their chosen supporters, and informed professionals such as physicians can maximize each decision-maker's autonomy and safety according to their unique needs and situations.

The Psychiatrist's Role in SDM

The Human Services Research Institute independently evaluated a 2015 pilot project to implement SDM in a group of individuals with I/DD. After two years of the program, participants reported that SDM helped them select people they could count on to help make decisions and reduced the risk of abuse by involving multiple supporters in decision-making assistance. Participants also reported increased confidence, pride, happiness, and a sense of control over their health. Of all the decisions made by SDM pilot participants with the help of supporters, the majority were decisions about health care.⁶ The high use of SDM for healthcare decisions highlights the positive impact SDM can have on the decision-maker's autonomy and the importance of educating physicians on the SDM process.

To support the implementation of SDM, physicians should advise it as an option for patients and their families or caregivers to consider when treating a patient with impaired decision-making capacity. A method to identify candidates for SDM rather than legal guardianship is to discuss a question with the patient and their families or caregivers: "Given language support, strategic tools, and support from trusted individuals, can the individual make decisions for themselves?" If yes, this patient could benefit from SDM instead of legal guardianship. In addition to strategizing with the patient about the best form of decision-making support, physicians should ensure they keep SDM agreements on file to reference

during visits. Keeping SDM agreements up to date for reference allows physicians and other providers to help decision-makers involve their chosen supporters when faced with choices about their health.

Psychiatrists occupy a unique role among physicians regarding their ability to support the autonomy granted by SDM. As physicians trained in quality-of-life medical care, psychiatrists can offer interventions to promote and maintain an individual's decision-making capacity. For example, a psychiatrist could strategize long-term spasticity management for a patient who uses an assistive language device to communicate their choices. With proficient spasticity management, the patient could continue using their assistive language device and communicate their preferences, ensuring they remain candidates for SDM. Prioritizing maximized communication ability as a care goal is only one of many ways psychiatrists can safeguard their patients' right to autonomy.

As professionals who may encounter people with intellectual, developmental, and cognitive disabilities at a higher rate than other physicians, psychiatrists may also serve a crucial role in assisting these patients as they transition into adulthood. A 2019 survey-based study reported that autistic adults* and adults with cerebral palsy (CP) faced increased difficulties transitioning to adulthood without support. Autistic adults reported difficulties in independent living and employment, while adults with CP reported difficulties with transportation.⁷ Difficulty transitioning into adulthood demonstrates only some of the differences in each individual's unique lived experience of disability. However, it highlights the additional value SDM could bring by establishing a network of supporters early. As stakeholders in each patient's quality of life, psychiatrists should make every effort to demonstrate that impairments to decision-making capacity are not impairments to someone's fully realized personhood by offering communication-enhancing treatments and advisement on options such as SDM when appropriate.

SDM Limitations

Individuals with I/DD may be particularly vulnerable to isolation due to disability status. For someone who

faces difficulty in decision-making and also experiences some form of isolation, SDM may not be a feasible option, as they may not be able to identify trusted individuals who can promote their autonomy as SDM supporters. Another limitation is that not all 50 US states have passed legislation supporting recognition of and protections for the SDM process. Lastly, education on the option of SDM remains low among people with I/DD, physicians, and other relevant stakeholders. Learning more about state laws regarding SDM, sharing information with other physicians, and becoming familiar with SDM agreements are all ways psychiatrists can support the implementation of SDM to maximize each patient's autonomy and quality of life. Resource libraries from the Center for Public Representation (<https://supporteddecisions.org/resources-on-sdm/>) and the American Civil Liberties Union (<https://www.aclu.org/documents/supported-decision-making-resource-library>) provide examples of SDM agreements as well as other documents to help implement SDM.^{8,9}

*Note: This article uses identity-first language regarding autism as it is the indicated preference of autistic individuals and the Autistic Self Advocacy Network.^{10,11}

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A PSYCHOSOCIAL FOCUS ON NEUROGENIC BOWEL DYSFUNCTION AND ADHERENCE TO TREATMENT

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In the world of Physical Medicine and Rehabilitation, optimization of quality-of-life for individuals grappling with disabilities, injuries, or chronic illnesses is of paramount focus. One of the main goals for physiatrists is to restore and enhance patient functionality by utilizing a holistic approach to not only assess the physical impairments but also consider the psychological, social, and environmental factors that may impact patient independence. When considering the large number of medical conditions that might have a significant impact on quality-of-life and patient independence, Neurogenic Bowel Dysfunction (NBD) is one that comes to mind quite frequently.

One of the more common but difficult-to-treat conditions, NBD results from autonomic and somatic denervation resulting in fecal incontinence, constipation, and difficulty with evacuation¹. NBD can present with varying symptomatology as well as intensity due to a complex pathophysiology, requiring a very detailed and comprehensive examination. The goal for this article is not to focus on the pathophysiology, physical symptomatology, or the treatment, but rather emphasize the importance of secondary factors associated with this condition that can be forgotten. Amongst the variety of causes, NBD is a common sequela in patients suffering from SCI and multiple sclerosis. About 80% of patients with SCI suffer from NBD and rank it amongst the top three most severe consequences of their SCI². In addition to the physical limitations and symptomatology, it is important to note the significant psychological challenges that may arise from this condition. Patients often feel embarrassed and frustrated with their inability to control their bowel movements, leading to loss of dignity, decreased self-esteem, and social withdrawal. This causes a rise in dependency as well as depression and anxiety. Adults with NBD find it challenging to manage hygiene leading to difficulty

in maintaining employment, enjoying recreational pursuits, and participating in social activities. In children with NBD, there are increased rates of depression and anxiety, as well as acts of bullying³. Patients also display quality-of-life concerns regarding leaving their home, and ability to socialize and shop outside the house when considering their NBD⁴. Similarly, patients demonstrate that bowel care interferes with social life, personal relationships, and inability to leave home leading to lower quality-of-life scores⁵. Research has shown a significant relationship between quality-of-life scores and time spent defecating as well as with the incidence of autonomic dysreflexia associated with NBD⁶. It has also been noted that quality-of-life suffers with increasing severity of bowel dysfunction^{7,8}. This overall decrease in quality-of-life as well as the psychosocial burden associated limits patient adherence to bowel management leading to a further deterioration in all aspects of life.

Neurogenic Bowel Dysfunction treatment is spearheaded by a comprehensive bowel management program. Prior to developing the program, it is imperative to assess if the patient can perform their own bowel program or needing assistance from a caregiver considering the severity of symptoms. Adding to this, it is important to evaluate the knowledge, cognition, function, and performance of both the patient and the caregiver in completing or directing safe and effective bowel care. After instituting an initial bowel program, it is important to check in with the patient and caregiver to reassess and revise the bowel program based on patient results, needs, and limitations, as well as the comfortability of the caregiver. There are a variety of factors that can affect patient and caregiver adherence to a bowel program. Initial psychosocial stressors such as depression, anxiety, anger, and fear related to the injury, or the sequelae can sometimes

limit patient and caregiver readiness to learn and participate in the bowel program. With passing time, patient and caregiver behavior towards the bowel program can change based on success vs. failure, ease vs. difficulty and complications, in addition to a multitude of secondary factors. Patient demographics such as ethnicity, gender, sexual orientation, culture, religion, or socioeconomic status can all affect behavior and patient and caregiver mindset as well as learning and adherence to a bowel program. Regarding the role of a caregiver, their availability and preparedness, training and education, as well as level of intimacy to the patient, can all limit the effectiveness of a bowel program⁹. Due to the need for caregiver support with bowel programs for patients with advanced injuries, it is important to include caregivers in bowel management planning and revision.

Even though bowel management is one of the bigger concerns for patients, they seldom make any changes to their bowel routines. Patients report a variety of barriers that may limit their desire to change their bowel program. In research conducted by Lucci et al, possible barriers to bowel program change were studied in a small group of patients with NBD¹⁰. Lack of perceived physical or emotional support was seen as a barrier to change. Patients who were dissatisfied with care received from healthcare providers or perceived limited knowledge of their bowel program from healthcare providers were less likely to change their bowel program. Similarly, patients with limited access to healthcare due to geographical or financial reasons, showed unwillingness to change their bowel program. Fear of worsened response to a new bowel program was also seen as a limiting factor. Patients with other medical conditions and concerns found it easier to focus on those concerns instead of their bowel program, possibly due to the complexity of the program and its ever-changing nature. However, patients with a positive perceived social support from family, friends, caregiver, showed more of a willingness to change their bowel program, if dissatisfied. Patients involved in peer support groups found it easier to change their bowel program with the help of mentorship, influence, and advice from

their peers. It was found that flexibility at work and in work environment made it easier for patients to change their bowel program¹⁰.

With all that in mind, it is important to consider the psychosocial aspects of NBD, bowel management and patient quality-of-life when evaluating and revising care for NBD patients. Adherence and proper application of bowel care can advance progress made by patients and as physiatrists it is vital to ask the right questions, listen clearly, and understand the needs of patients and caregivers. The described combination of psychological distress and functional limitation underscores the importance of comprehensive care in physiatry, which not only focuses on managing the physical symptoms but also addresses the psychological impact and helps patients develop coping strategies to improve their quality-of-life.

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WHERE PM&R FITS IN THE WORLD OF UNIVERSAL DESIGN, COMMUNITY REINTEGRATION, AND ACCESSIBLE TRAVEL: AN INTERVIEW WITH DR. NIÑA CARMELA TAMAYO, DO, MS, MPH

DOROTHY ANNE GALANG CABANTAN; OMS4, MICHIGAN STATE UNIVERSITY COM

PM&R is inherently interdisciplinary, allowing us to broaden our reach as far as rehabilitative interventions go. Understanding our specialty's bandwidth beyond the clinic is exciting in the advent of rapidly growing technological advancement. Here, we highlight the concept of Universal Design —the *"composition of an environment so that it can be accessed, understood, and used to the greatest extent possible by all people regardless of their age, size, ability, or disability. (...) This is not a special requirement, for the benefit of only a minority of the population. It is a fundamental condition of good design."* [1]

I had the opportunity to sit down with Dr. Niña Carmela Tamayo, who shares her passion for environmental accessibility and universal design with us. Dr. Tamayo is a Spinal Cord Injury-trained board certified physiatrist who is the CEO and Founder of Prime Directives PM&R, serves as the President of the Philippine American Physiatrist Association, chairs the International Rehab and Global Health Community for AAPM&R, and acts as the Chief Clinical Consultant for Prev.ai/DwellSafe.

What inspired you to pursue Universal Design?

My interest in Universal Design stems from my passion for travel and disability. I've been an avid traveler since I was a little girl—I have my parents to thank for that—but it wasn't until I got into PM&R that I truly understood that this world isn't made for people with disabilities.

I was hiking in Colorado during a conference in residency with a good friend when I started to realize the challenges and barriers for those with mobility impairments. To get to the base of the trail, you had

to climb 100 man-made steps. For anyone in a wheelchair, there was only one accessible-friendly area available to see a bird's eye view. You had to take an elevator to what they called a "bird's nest." But that was it. They missed out on the waterfall, the other amazing views at the park, and the main part of the trail was wide enough to have been made accessible. While it was nice that they had an accessible area, they could have put the same elevator nearer the steps and created a more accessible trail.

This experience inspired me to look into built environments and triggered my interest in accessible travel, which if done right, includes universal design. As physiatrists, we have the power to advocate for a more universally accessible and more universally designed world. With this philosophy, we could achieve more equitable experiences for ALL people, not just able-bodied people.

How did your training in SCI integrate into your passion for Universal Design?

As an SCI-trained physiatrist with a passion for travel and accessibility, I wanted to better understand the barriers to care for my patients. With the support of the ASIA Rehabilitation Standards Committee, I created the ASIA SCI Traveler's Manual [2] to shed light on these challenges. For context:

"Travel was reported as the most disrupted social activity since their injury with only 4% of people

living with SCI choosing it as part of their leisure activities (Carpenter et al 2007).

People with disabilities (PwDs), however, have the same need and desire to travel as their non-disabled

counterparts. They cite relaxation, escape and excitement, as well as enhancement of personal relationships as primary reasons for travel (Shi, Cole, Chancellor 2012).

Furthermore, travel is one way to help PwDs re-integrate back into the community, promote independence, and improve overall quality of life (Yau et al 2004)."

Traveling takes a lot of planning to begin with, especially for SCI patients. The spontaneity of leaving your house is gone, and you have to prepare for emergency situations. But even if you did all your research and made sure your destinations are "accessible," oftentimes, they are not. For instance, when you get to the hotel, is the room truly accessible? Is the advertised roll-in shower truly a roll-in shower? How about a restaurant that states they're "accessible-friendly" but has 3 steps at the entrance, and a bathroom too small for a wheelchair?

We, as a field, do a great job at rehabilitative interventions through the continuum of rehab settings from the acute care stay to inpatient rehab to skilled nursing facilities, home care and outpatient follow ups. We are great at teaching patients about their new normal, but the world we are discharging them to is just not made for them. And we need to do a better job of being aware of the resources and maybe even making those resources to help them navigate their environment.

You mentioned your love for travel accessibility. How did this evolve over the years?

When COVID hit and the world adapted to quarantine, it wasn't so much about accessible travel anymore. Rather, it was about community reintegration — because at the heart of it, is travel. Going to the grocery store, getting out of the house, traveling to the movie theater, running errands, making your doctor's appointment— all this in itself is travel. So my projects evolved. The idea of travel became more palatable to patients when we framed it as community integration. And we focused on small outings rather than big domestic or international travel.

At the heart of it, a more equitable world means more people can enjoy it. This means, not just people with disabilities but also our aging population can enjoy more. I certainly don't want our *Lolos* or *Lolas* (*Translated: Grandpa or Grandma, Tagalog*) to have difficulty getting around their communities because they used a wheelchair or another assistive device. I want everyone to enjoy time outside their homes free of worry for accessibility.

What are common features in a home that need to be modified?

I've found that most homes in the United States aren't built for aging in place. Basically, your home doesn't *grow* with you. If so, I thought, how could this be the definition of a forever home? The kitchen and the bathroom are the main areas that can be completely modified, but there are some features around the home that we might not even consider. Some features I've found that make homes more accessible include:

1. Pull down shelves in the kitchen and closet spaces can be made manual or electronic, but instead of reaching for something, it comes down to you.
2. Height matters and can make a huge difference. Doors with lower handles, and special hinges for easier opening, light switches that are lower or electric plugs that are set a little higher can make maneuvering around the house easier.
3. Having grab bars or even short shelves, and a sink that can fit a wheelchair underneath in the bathroom can be designed to be aesthetic and retain functionality. A roll in shower as well!
4. Kitchens can be designed to have multi-height counters, stoves, ovens so people with different abilities can use them and many of them can be designed for one touch use.
5. Lastly, we are living in the new world of AI. Voice control devices that program certain appliances to turn on and off in the house can be very helpful for those with disabilities.

How can we get involved?

If you are interested in community reintegration, travel, and disability, feel free to contact me at tamayophysiatry@gmail.com!

You can follow Student Doctor Cabantan on social media at @dorothycab

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COMMUNITY INVESTMENT: HOW ADAPTIVE SPORTS IS IMPROVING THE LIVES OF ATHLETES IN NEW MEXICO

RYAN KELLER; OMS3, BURRELL COLLEGE OF OSTEOPATHIC MEDICINE

Camille Romero is the Director of Development for Adaptive Sports New Mexico, a program dedicated to offering therapeutic recreational activities to adults and children with disabilities. As a native Santa Fean and devout advocate for individuals who are navigating disabilities, Camille works tirelessly to bring year-round opportunities to the athletes in New Mexico through creative programming for the adaptive sports community and leading groups of volunteers each season. More information for ASP New Mexico can be found at <https://www.adaptivesportsprogram.org/>.

Ryan: Hi Camille, can you start by introducing yourself and talking a bit about the Adaptive Sports New Mexico program?

Camille: Absolutely, my name is Camille Romero, and I'm the Director of Development for Adaptive Sports Program New Mexico, which I'll abbreviate as ASP from here on out. ASP is a non-profit that has been in existence since 1985 and our mission is to enhance the lives of kids and adults with disabilities through recreation.

Ryan: That's pretty amazing. What types of individuals does ASP usually have the chance to work with?

Camille: One thing that makes ASP a little bit unique and maybe separates us from other similar organizations is we are as inclusive as possible. So basically, anyone with a permanent medical disability is eligible to participate in our programs, whether that be a physical, behavioral, cognitive, developmental, or any other type of disability, and that's all age groups. We work with athletes as young as five to our most senior participant who is in his late 80s. There are even a few days we reserve specifically for veterans and those who have served which is super powerful. So, inclusivity is truly at the forefront of our minds, and anyone who wants to be active and

come out and try our programs - there's a spot for them.

Ryan: It sounds like you have a huge variety of athletes and abilities. To keep up with the needs of the athletes, what qualities do you look for and see in those who volunteer for ASP?

Camille: The volunteers are extremely diverse. Many of them have experience working with individuals with disabilities in a medical setting like physical therapists, occupational therapists, DOs/MDs, or in an educational setting, like teachers or social workers. Often, we have some former caregivers and then there's a whole group of folks out there who don't have any professional expertise working with individuals with disabilities, but they have a passion for the outdoors, and they want to help others find joy in these activities. We value teamwork and effective communication because those go a long way in helping our athletes achieve more of their goals.

Ryan: So, from your perspective, in terms of being a native New Mexican and having this be a community that's accessible, what does it mean to be able to bring the local people to the local landscape of New Mexico?

Camille: Gosh, I would say that means everything. You know, I think anyone who spends any time outdoors in nature, whether they're climbing or skiing or on the lakes, appreciates the restorative effects of being outside, being active, and being around people. When you have a disability sometimes your options to get out and experience nature are limited by a variety of factors. And so, allowing folks to get out and have that experience in our local landscape, that maybe they wouldn't be able to do on their own or they wouldn't have otherwise given it a shot if programs like ours didn't exist, is kind of everything,

you know? It's transformative for a lot of people and I'm grateful to be a part of that.

Ryan: I definitely resonate with that, thank you. I heard you mention a little bit about the different settings that athletes can get involved in but what are the types of programs that ASP offers?

Camille: When we first started in 1985, there was a group of hardcore skiers, but they realized that skiing was not an accessible sport. So, our organization was originally launched at Sandia Peak as the Adaptive Ski Program. For many years, probably something close to 20 years, the organization continued as just the ski and snowboard program. Finally, at some point, everyone involved realized that, hey, you know, the benefits of these sorts of activities are needed year-round and we can expand and offer additional opportunities. That was when we changed our name to the Adaptive Sports Program of New Mexico, and we began gradually adding in additional sports. Now, we offer the ski and snowboard program, and adaptive rock climbing, both indoors and outdoors. We do water sports of all sorts including rafting, sailing, kayaking, paddle boarding plus a few recreational activities such as archery and yoga.

Ryan: From a medical standpoint we like to call that "continuity of care," as we have come to appreciate how important for these opportunities to exist year-round. So, it's great to hear that ASP offers all of those programs. I'm curious, how did you first come to be part of ASP?

Camille: I grew up skiing at Ski Santa Fe and I had seen the program since I was a kid, and I knew that I always wanted to get involved in some way or another. When I moved back to Santa Fe, I had some very committed jobs that wouldn't allow me to volunteer. However, I eventually saw that ASP was hiring and I knew that I was ready to make a change. I was hired as the Development Director back in 2015 and got to meld my professional experience with my personal interests, which is a concept that pretty much drives ASP, as many of our volunteers are doing the same. So in my job, I not only do things like write grants and hold fundraisers but I'm also on the mountain actively working with our athletes, or at the lakes, or anywhere else. It's really allowed me to follow my

passion for outdoor recreation while also being professionally engaged.

Ryan: I love that you were able to find a combination of your passions in this role. On top of the administrative position that you hold, you also teach athletes to ski as well as train new volunteers, which is how we met. So, what would you say are some of the basics that you hope instructors take away after having a clinic with you?

Camille: Since our volunteers come from such diverse backgrounds and come to us with varying levels of experience, what we want them to take away from their initial training sessions is first an understanding of the work ASP does and why we exist. Secondary to that, we look to educate our volunteers on the broad facets and presentations of disability so that they can understand the special considerations we want people in our organization to have in terms of social interaction, physical support, genuine kindness, and mostly patience. Finally, we want them to come away understanding that as an organization at our core, we want everyone to stay safe, have fun, and learn something.

Ryan: Those concepts really can't be overstated. When it comes to skiing, what types of adaptive equipment does ASP typically use?

Camille: Well, that is a great question. We have a whole spectrum of adaptive equipment. Some of our skiers don't use any adaptive equipment at all. For example, we have children with autism who don't need any sort of specialized physical support, but maybe they need some additional emotional support as the focus of their lesson. For individuals who may need some physical support, we commonly use what are called outriggers. Outriggers are basically a crutch for either arm that has a shortened ski platform on the bottom. They are great for initiating turns if someone has mobility or balance issues. When a lower limb amputee uses the outriggers stand-up ski, that's called "three tracking" because there are three skis on the snow, the one lower limb ski and the two-armed skis. We also have a piece of equipment called the slider. It's more of a walker on skis that provides stability and allows athletes to ski upright and fairly independently. Similarly, we have ski bikes that have replaced where the wheels would be on a normal bike

with skis. These are great for maintaining both balance and endurance if stand-up skiing is going to be too exhausting. Additionally, we have our sit skis. The basic two types are a mono ski, which has a bucket-type seat with a single ski underneath, and the bi-ski, which, again, has a bucket-type seat but with two skis underneath. Bi-ski can be a super versatile piece of equipment used by individuals who, for whatever reason, cannot ski comfortably standing up. That could be quadriplegic, perhaps CP, some amputees, or spinal cord injuries, a lot of different folks use bi-skis. What's really cool about the bi-skis is they can be skied fully independently by the athlete if they have the trunk support and control. But, if the athlete can't provide the physical input to ski independently, a volunteer can hold on to the ski and control it from the rear position. So, it really opens up the world of skiing to everyone, regardless of what they can or cannot do physically. And then finally, we have mono skis which are generally skied by folks who have a little bit more upper body control and can ski independently. The person using the mono ski is sitting down, but they also have those short outriggers that we discussed and can control their lateral movements more precisely.

Ryan: It's nice to know there is adaptive technology to fit the needs of such a diverse community. You're super passionate about this organization and now that I have had the chance to start volunteering with ASP this year, I already have an idea of the spirit and camaraderie that's woven into the fabric of this organization. But what is it about ASP specifically that keeps you coming back year after year?

Camille: It is the community. And I would say that's probably true for most people. Yes, it's fun to ski. Yes, it's fun to rock climb or be out on the lakes. But to find a group that is so welcoming and accepting of all people, whether you're there as an athlete or a volunteer, is everything. I have met some of the most amazing people and best friends through participating in this program.

Ryan: That is really heartwarming. Ok, last question here: In some of the conversations that I've had with parents and volunteers who coach the athletes,

there's been this sort of a current theme of how ASP has been transformative in improving the quality of life for people who participate. Can you talk about a time when you saw the transformative power of adaptive sports either on the slopes or in another environment?

Camille: Oh gosh, totally. One of our volunteers has a daughter who has multiple disabilities and has grown up with our organization. Years ago, when the daughter first started with ASP, she was young and struggling behaviorally and physically to get on the slopes. Her mother was kind of at her wit's end because they had done everything medically and just weren't making significant advancements. After finding the adaptive ski program and getting signed up, the daughter struggled with temper tantrums and resistance to participation, but they kept coming up to the mountain, and coming up, and coming up, and eventually, she grew to absolutely love skiing as well as the program itself. And here we are probably 15 years later, maybe 20, and that same girl has progressed enough to where she can be a second instructor on ski lessons. She also volunteers at almost all of our other events and is known as one of our most dependable and enthusiastic volunteers. Her mom became a part of our board of directors and together, they are such an integral part of ASP. If you asked the mom today about her experience with ASP, she'd say "It's like a miracle. I feel like this program saved my kid's life" taking her from someone who was disengaged with society to someone who is flourishing and is immensely proud of what she's accomplished. She lives to help other people now, and it's just really amazing to see.

Ryan: That is incredibly transformative, thank you for sharing. Camille, I appreciate you taking the time to meet with me. Your insights into the adaptive community and the positive impact that ASP has made in New Mexico make me proud to be a volunteer. Thank you!

Camille: It's my pleasure, thanks for having me.

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EXPLORING THE POTENTIAL OF STIM ACUPUNCTURE IN ACCELERATING POST-STROKE REHABILITATION: A PATH TO ENHANCED NEUROPLASTICITY

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Stroke is a debilitating condition that often leaves individuals grappling with a range of physical and cognitive impairments. Traditional rehabilitation methods have made strides in aiding recovery, but emerging therapies, such as stim acupuncture, are gaining attention for their potential to accelerate neuroplasticity and enhance post-stroke rehabilitation.

Stim acupuncture combines traditional acupuncture techniques with electrical stimulation. During a session, thin needles are strategically placed on specific acupuncture points, and a low-frequency electrical current is applied to stimulate nerve endings. This combination is believed to enhance the therapeutic effects of acupuncture by promoting blood flow, reducing inflammation, and influencing neural pathways.

Neuroplasticity is the brain's remarkable ability to reorganize itself by forming new neural connections. In the context of post-stroke recovery, stimulating neuroplasticity becomes crucial for patients to regain lost functions and adapt to their altered neurological landscape. Stim acupuncture may play a significant role in this process.

Potential Benefits:

Improved blood circulation: acupuncture has been known to enhance blood circulation, promoting oxygen and nutrient delivery to damaged brain areas. The addition of electrical stimulation in stim acupuncture may further amplify this effect, supporting the brain's healing process.

Neurotransmitter modulation: the electrical stimulation involved in stim acupuncture could influence the release of neurotransmitters, such as endorphins and serotonin. These neurotransmitters

play a role in pain relief, mood regulation, and overall well-being, potentially contributing to a more positive rehabilitation experience.

Facilitation of neural pathways: by targeting specific acupuncture points associated with motor and sensory functions, stim acupuncture may assist in reactivating dormant neural pathways. This targeted stimulation could aid post-stroke patients in regaining motor control and sensory perception.

Reduced muscle spasticity: stroke survivors often experience muscle spasticity, which can impede movement and hinder rehabilitation efforts. Stim acupuncture has shown promise in reducing muscle spasticity, allowing for more effective physical therapy and improved functional outcomes.

While the potential benefits of stim acupuncture in post-stroke rehabilitation are encouraging, it's essential to acknowledge the need for further research to establish its efficacy conclusively. Individual responses to acupuncture can vary, and the optimal frequency and duration of stim acupuncture sessions need to be determined through rigorous clinical trials.

Stim acupuncture therapy holds promise as an adjunctive approach to post-stroke rehabilitation, potentially accelerating neuroplasticity and improving functional outcomes for stroke survivors. As researchers dive deeper into this innovative therapy, a more comprehensive understanding of its effectiveness and optimal application in post-stroke care will likely emerge, offering more options for enhanced recovery.

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NEW 'PORTLAND WEIRD' COMMUNITY: MY EXPERIENCES AT THE NATIONAL VETERANS' WHEELCHAIR GAMES

HAYLEY HICKS, DO; PGY-3, UNIVERSITY OF MINNESOTA PHYSICAL MEDICINE AND REHABILITATION

There is a debate in medicine about 'black clouds,' and whether they truly exist. I submit that they do exist, because I am one. Why else would I be sprinting more in one week than I had most of residency? Well, it may have been the medical emergency a Veteran athlete was experiencing blocks away from the competition or the Veteran who had an unexpected encounter with a moving bus. Maybe it was the veteran that fell somewhere outside the event venue, but "somewhere" encompassed four city blocks. Nevertheless, I am positive the black cloud had something to do with it.

However, I should begin at the beginning. I was able to participate in sports medicine coverage for the National Veterans Wheelchair Games last summer - a week-long adaptive sports competition orchestrated by the VA and PVA and one of the largest adaptive sports events in the country. They offer a range of sports like wheelchair basketball, adaptive cycling, adaptive swimming, and wheelchair rugby (also known as 'murderball'). It offers Veterans with disabilities the chance to try new adaptive sports, as well as some fierce competition for experienced participants who have been training for these sports.

The sports medicine team was made up of VA-affiliated attendings, fellows, and residents from across the country. They were experts in adaptive sports, spinal cord injury, large participation event logistics, and so much more. I tried to absorb as much as I could from all of them. I learned so much from them all, but one thing I found particularly interesting was the logistics. Figuring out the behind-the-scenes work that a mass participation event needs to function was fascinating. I learned so much from watching our team leaders coordinate shifts, equipment, and staff that had never worked together before, all in a new place.

One piece of the logistical puzzle was making sure there were enough AEDs to cover the venues and different events. There were a handful in the main convention center, but they were scattered across three large and different floors. Our crew were able to provide a few portable ones, but figuring out where to best place these limited resources was a challenge. To add extra flavor to the challenge, there were some days where part of the team had to cover events at a different location, some of which did not have an AED on site. As the Games carried on, the team workshopped locations that worked the day before, and places that we thought were less accessible in an emergency. This debriefing and revising process also happened with other aspects of care, like following up with a Veteran after they were evaluated by EMS or taken to the hospital.

These experiences hammered home how necessary it is to both plan for and adapt to a situation. Designing coverage for the outdoor adaptive swim meet in the latter half of the week was a unique challenge, as the event was off-site and required us to supply all of our own gear. Because of this, our team had consider not only medical care, but also the administrative needs, such as the amount of first aid supplies to bring and what would be needed to set up a medical tent. We also connected with the on-site EMS crew in order to secure logistics further, including AED availability, personnel locations, and emergency plans. There was a lot of plotting in the final hours prior to the event, all with the hope those plots would never actually be needed.

After the pre-event meetings, our team spread out to different areas of the pool deck. Covering a competitive swim meet might not sound like the most exciting sports coverage, until you stop to think about all of the challenges that someone with a high level cervical spinal cord injury might encounter in their

everyday life, long before getting in the pool. Our team leader had explained that athletes with these kinds of injuries would just “rest underwater,” and we would have to distinguish between who was taking a quick break and who might actually be drowning (no pressure). We also had several members patrolling the pool deck to restock water and towels at finish lines, with a particular concern for athlete hydration, hyperthermia, and hypothermia. Some of the Veterans with higher spinal cord injuries have a lot more difficulty regulating their own body temperature on a normal day, let alone a day when they were swimming laps in an outdoor pool. All of our preparation came in handy, as many of the non-healthcare volunteers for the event were not aware of these risks. This preparation eventually empowered our team to care for a Veteran who wanted to swim in multiple events while also managing the risk of hypothermia, balancing the athlete’s safety with their desire to compete. The athlete later thanked us as they left, bundled up in multiple layers after safely completing their events.

Talking about all of these risks to watch for, being deliberate in what equipment we need, and adjusting to what we find on site were all skills that were essential to keeping our adaptive athletes safe. We were able to learn from some incredibly experienced attendings and subsequently rise to the occasion - whether it was covering adaptive swimming, with entirely different risks and needs than what I had seen before, to dashing down the streets of Portland to ensure a Veteran athlete was receiving appropriate care.

My other big takeaway from the National Veterans Wheelchair Games was just how important it is for people to have a community, especially when they have gone through similar, difficult experiences. I was able to watch Veterans take over a small part of the city for a week. I witnessed them discussing accessibility issues that I had not thought of, such as cracks in the sidewalk that could easily unseat someone going fast in their manual wheelchair. I saw Veterans socializing and relaxing with their families

and friends at hotels, restaurants, and tourist attractions, with their assistive devices being commonplace. Before this event, I only knew that spaces like these were important in an academic sense. Working at the Games gave me a reality-based understanding of why it is so important to have places where people feel safe to be themselves, and just how powerful that can be.

I also had the opportunity to witness frank conversations between Veterans regarding their mental health, their physical health, and some of the challenges they face with their different disabilities. I had never heard any of the Veteran patients I worked with in the past be so open about topics like grief, loss, and depression. To be honest, I am not sure I will ever be the person they can talk that candidly with, since I do not have that shared experience of serving in the military. However, after working the Games, I am okay with that. As long as our Veterans continue to have a community like this, where they can be open with discussing their difficulties. If they need the extra help that a medical team can provide, I hope that the “veteran” Vets can guide others to the help we offer.

The National Veterans Wheelchair Games were a phenomenal learning experience as a physician and a human. I learned different ways to manage logistical challenges, as well as new strategies to adapt on the fly. Tying humanity back into my work was revitalizing and motivating, and now I hope to build other spaces like the Games with some of the tools I gained from them. I hope that I can shake off my black cloud by then.

So if the National Veterans Wheelchair Games (or any other adaptive sports event) end up in your neighborhood, I highly encourage you to go. Whether you volunteer or just cheer on the athletes, there is so much you can learn and do to help grow this community. Watch some murderball, learn about the new hotness that is wheelchair pickleball, and get hyped for some incredible athletes.

New Orleans, get ready for summer 2024!

PM&R'S ROLE IN THE MANAGEMENT OF ANTI-NMDAR ENCEPHALITIS: A BRIEF REVIEW AND CASE REPORT

DOROTHY ANNE GALANG CABANTAN; OMS4, MICHIGAN STATE UNIVERSITY COM

The Case:

A 19 year old female presented to an LTACH facility for rehabilitation following a 1 month hospitalization for encephalitis. She was otherwise healthy until she developed URI symptoms after a month-long summer camp. Over the next few weeks, she developed mood swings, fatigue, and increasing instances of inappropriate laughter which concerned her friends and family, prompting her initial visit for diagnostics. She then developed autonomic instability, requiring transfer to another facility for intubation and airway protection. Her workup was initially negative, but eventually tested positive for anti-NMDAR encephalitis. She received a regimen of plasmapheresis, IVIG, rituximab, and prednisolone prior to being transferred to inpatient rehabilitation for speech, language, and cognition therapy, occupational therapy, and physical therapy.

Discussion:

Anti-NMDAR encephalitis is the most commonly studied autoimmune-mediated encephalitis, though this remains rare, or perhaps under-reported with an estimated incidence of 1 in 1.5 million people per year [1,2]. In this condition, autoantibodies bind to the GluN1 subunit of the NMDA receptor (although it is debatable whether autoantibody attachment to the receptor is responsible for triggering the encephalitis itself.) [4, 5, 9] Two conditions known to trigger anti-NMDAR encephalitis include ovarian teratomas and herpes simplex encephalitis. In this case, the patient's etiology of encephalitis was unknown, with negative workup for ovarian teratomas, HSV, or malignancy. According to Dalmau [3], approximately 50% of women with anti-NMDAR encephalitis have ovarian teratomas. In this case, it is unknown what exactly caused her anti-NMDAR encephalitis, other than a history of possible tick bite exposure during their time as a cabin counselor

outdoors. Interestingly, Lyme disease may be associated with NMDAR encephalitis, especially in endemic regions [5]. Symptomatology starts with a prodromal viral type picture, followed by a broad range of neuropsychiatric features like confusion, hallucinations, insomnia, apathy, anxiety, seizures, amnesia [6].

First-line therapeutics include plasmapheresis, IVIG, and corticosteroids, in addition to removing the presumed source (ex. Ovarian teratomas, malignancy.) [6]. Physical Medicine and Rehabilitation plays an important role with managing anti-NMDAR encephalitis, especially with a cohesive combination of speech, language, cognitive, occupational, and physical therapy, to assist with the dysphagia, mobility, transfers, and gait training. Finally, neuropsychological care is important to manage concurrent psychiatric manifestations, which in combination with the aforementioned services allow patients to integrate back into the community well and perform their ADLs following discharge from inpatient rehabilitation [8].

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PATIENT CARE IN RURAL INDONESIA: HOW I FOUND MY PASSION TO PM&R

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I am a doctor from Indonesia. Have you ever been to Indonesia or visited Bali? Bali is one of the most famous islands among the 17,000 islands in Indonesia. The number of physiatrists in Indonesia is 1072 for a land area equivalent to 20% of the United States and a population of 278,000,000 people. This number is very low, and there are even four provinces that have no medical rehabilitation specialists at all!

I found my passion in this field after my grandfather passed away from complications due to SCI cervical tetraplegia. Without surgery, he was only able to survive several months after immobilization. I was motivated to find out how the outcomes of postoperative stabilization of SCI cervical ASIA A patients. I had the opportunity to do a home visit to determine the Barthel Index of several patients with SCI cervical ASIA A post stabilization surgery in the last five years. After obtaining data from the hospital's medical records, I set out for the home visit.

The results of my home visit were not very satisfactory, 4 patients did not survive within 3 months due to pneumonia, there was 1 patient who could survive up to 3 years and finally passed away because of pneumonia. We had 2 patients who survived 6 months and the Barthel index was 5. One patient survived 2 years, the Barthel score was 10. It was time for the last patient, he had undergone surgery 5 years ago, with SCI C4-5 ASIA A. I was pessimistic that this patient would survive because of his medical assessment and was staying in a rural area which had to reach 111 km away from the central hospital referral access.

When I went to his house, I was surprised that this patient was riding a motorcycle and was able to work normally again as a teacher at an elementary school. This patient told me that he had fully recovered after 3 years. His families fully supported him. In addition to therapy at the hospital, he also regularly exercises at home using makeshift tools. In his house I saw a DIY lift bed that he used for several months after surgery,

DIY walking exercise made by bamboo, DIY wooden walker, static cycle from an unused bicycle.

This patient made me realize that being a physiatrist in Indonesia, which is a developing and archipelago country, experienced different challenges. In urban areas, the facilities are well equipped and easy access by the patient. But when in rural areas, physiatrists must be able to motivate patients and their families not to give up and must be creative to utilize simple tools that can be made by patients at home for exercise therapy.

It is gratifying to assist patients with disabilities to achieve and maintain optimal function in their interactions within the community. This field tells me that we will be able to not only add years to life, but also life to years.

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