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# **July 2023 Newsletter**

Offering support, care, and hope...right here at home!
The mission of the Tri-State Multiple Sclerosis Association is to enhance the quality of life for individuals living with MS & their families in Southern IN, Southern IL & Western KY

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## Rehabilitation Therapies can help with MS Symptoms, Susan Reynolds RN MSCN

Dealing with the invisible symptoms of MS can be extremely challenging. Many symptoms are invisible and are often misunderstood by family, friends and co-workers. Be sure you always share your symptoms with your neurologist at your regular appointment. Most symptoms can be managed with medications and other interventions. Your neurologist must be made aware of these problems and you are the best one to explain how your life is being impacted by these common MS symptoms.

Take advantage of various experts such as **physical therapists**, **occupational therapists and speech therapists**. These specialists can work with you to create strategies to help you minimize the impact MS has on your life. Talk to your neurologist about getting a referral for the type of therapy that you need.

A **physical therapist** can enhance your independence and quality of life by improving movement, function and by relieving pain. Some Physical Therapists may hold a certification in MS care. Physical Therapy can help with:

1. Balance and walking

2. Fall Prevention

3. Difficulty Performing Tasks

4. Pain

5. Stiffness and Spasticity

6. Posture

7. Immobility

8. Fatigue

9. Weakness

At your first appointment, you will be evaluated for posture, trunk control, balance and transfers, ambulation and mobility. This evaluation includes vision, sensation, vestibular or cerebellar deficits, spasticity, muscle weakness, fatigue and shoe wear. Range of motion, motor, neurological and respiratory function and wheeled mobility if appropriate, will be evaluated. Recommendations for exercises will be made by the therapist. The PT will build your exercise program and check your progress. The therapist will work with you until you reach an optimum level of improvement.

An **occupational therapist** (OT) will help you stay productive, safe, and independent in your home and work environments. Some OT's may have a certification in MS. Treatment may involve modifications of your space, such as: Bathrooms, kitchen, entrances, stairways, and cars. They can also help you develop strategies to simplify jobs and conserve energy.

Occupational therapy teaches you how to be as independent as possible. You can learn how to use equipment or aids to help you with your activities of daily living. This includes aids that help you eat, get dressed, bathe and do other tasks. This therapy also helps you learn how to save energy while you do those tasks. You can learn how to do them while using assistive devices such as; a cane, a walker, or a wheelchair.

A speech language pathologist (SLP) can help if you have problems with: Breathing, swallowing, speech, and cognition. In the case of swallowing problems, a SLP works with a Physical Therapist and dietician to help you learn to eat safely. If you have speech difficulties, they can help with speech production and clarity so that you can continue to communicate effectively.

Another therapy that can be provided by a speech language therapist is **Cognitive Retraining.** "Cognitive" is a word that refers to you brain's ability to do things like remember, solve problems, and make decisions. Therapy can often retrain your brain to find other ways to do these tasks. For example, you may learn to rely on other ways to remember and stay organized, like using a computer, a cell phone, a notebook, or a filing system. This therapy can also help you deal with depression, anxiety, stress or fatigue, all affecting how well you can think and remember.

**Rehabilitation therapies** can add a lot to your MS treatment but they aren't a quick fix—it takes time and patience to see results. You may experience obstacles and some frustrations along the way, but the overall health benefits to you are worth it. Stick with your therapy until you are released by your therapist. Please Keep in mind, that it's OK to switch therapists or therapy sites if you're not content with your current one. Getting a second opinion is never a bad idea, and sometimes it takes time to find the right relationship.

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The following product was developed by Dr. Luke K Barr, a neuro-hospitalist and the Director of the Neuro-hospitalist Group at Deaconess.

Dr. Barr is interested in your feedback on this product. He will demonstrate the Polyform - 1H at the TSMSA office on July 18<sup>th</sup> from 10:00am – 11:00am or 12:00 -1:00pm. If you are interested in joining us for one of the following sessions, please call 812-423-5943. Each session has limited seating! Light refreshments will be served.

Plasticity Neurorehabilitation - Polyform -1H



The importance of two-handed function for patients with Multiple Sclerosis.

### How do we use our hands?

For most of us, performing our everyday tasks is essentially unconscious. We do a million different things with our hands every day and hardly have to stop to think about it. What are some examples of the way we use our hands? The list is surely long, but if we think for a moment we can come up with several: driving, dressing, brushing our teeth, washing dishes, taking a shower or bath, texting or making a phone call, eating, opening up jars and bottles, playing instruments or games, working with tools, typing, etc. The primary way that we engage with our world is with our hands, and very frequently, we have to use both at the same time to achieve our goals (1).

## How can our hand function be compromised?

For many people with Multiple Sclerosis, one hand, or both, may not work as well as it used to. This may be due to lesions in the brain or spinal cord. The initial neurological injury may end up causing additional changes to the muscles and joints of the hand, further reducing function. Reduced ability to use the hand or hands may make previously easy everyday tasks more difficult (2, 3).

### How can reduced hand function affect us?

Reduced ability to use our hands can negatively impact our quality of life practically as well as emotionally and psychologically. Practically, reduced ability to use the hands makes tasks physically harder to perform. This can reduce one's productivity. Emotionally and psychologically, we can feel bad about ourselves due to loss of independence or perceived increased burden on those we care about. It is not uncommon for those with MS to also develop depression (4).

## What kind of research is being done on hand function improvement?

More and more research is revealing the importance of including both hands in therapy exercises, even if it is only one hand that has lost function. Many new, high-tech tools and techniques are being developed. These frequently use computerized (including virtual reality), or robotized aids for performing therapy exercises with both hands. These new concepts frequently focus on coordinating both hands to manipulate a rigid object, mimicking everyday tasks. So far the results seem promising (5-8).

## What can we do to improve hand function?

While the above developments are certainly exciting, they are still experimental and access to these technologies is highly limited. They are also extremely complex and may not be a good fit for everyone. However, we can utilize the similar key factors in our everyday lives to maximize our chances of improving hand function and regaining independence. After all, until we outright cure multiple sclerosis, we want to maximize our quality of life and preserve function for as long as possible. So what are these key factors? Commonly they seem to include a large, bulky object, that is also rigid, and that is manipulated with both hands, ideally while coordinating the right and left hand. We can practice with everyday objects in our house to harness these factors, such as jars or bottles. A bulky, hard object that is light enough to work with would be adequate. Other ideas include performing simple one handed tasks with the hand that is less functional.

## **Summary:**

Everybody needs hands. Our hands are a major part of how we explore and engage with our world. This may be for work or play, or communication and expression. Our hands literally and figuratively touch every part of our lives. Reduced hand function can impact how we act, think and feel. However, there are a lot of exciting developments focusing on improving hand function, including specifically for those with multiple sclerosis. A lot of these developments can be easily adapted into our everyday lives. Something as simple as playing with a rigid, empty box, or eating with the more impaired hand, may help.

It is important to continue to work with an occupational therapist, or to continue previously prescribed exercises, in order to maintain and regain function. Consider asking your occupational therapist about building two-handed exercises into your therapy plan. You can improve your hand function. Do not lose hope and never give up!

**Conflict of Interest statement:** Dr. Luke K Barr is a neuro-hospitalist and the Director of the Neuro-hospitalist Group at Deaconess. He is also the President and Founder of Plasticity Neurorehabilitation, a company that is commercializing Polyform-1H, a non-invasive neurorehabilitation solution designed specifically for two-handed exercises. His company can be followed on Instagram, <a href="https://www.instagram.com/plasticity\_neurorehabilitation/#">https://www.instagram.com/plasticity\_neurorehabilitation/#</a>

#### REF:

- 1. SL Kilbreath, RC Heard. Frequency of Hand Use in Healthy Older Persons.

  Australian Journal of Physiotherapy. Vol 51, Issue 2, 2005, Pages 119-122.
- 2. I Pirko, JH Noseworth. Demyelinating Disorders of the Central Nervous System. Textbook of Clinical Neurology. 2007: 1103–1133.
- 3. V Krishnan, S Jaric. Hand Function in Multiple Sclerosis: Force Coordination and Manipulation Tasks. Clin Neurophysiol. 2008 Oct; 119(10): 2274–2281.
- 4. RJ Siegert, DA Abernethy. Depression in Multiple Sclerosis: a review. Journal of Neurology, Neurosurgery and Psychiatry. Vol 76. Issue 4.
- 5. G Ballardini, et al. Bimanual control of position and force in people with multiple sclerosis: preliminary results. 2019 IEEE 16th International Conference on Rehabilitation Robotics (ICORR).
- 6. L Bonnano, et al. Functional connectivity in multiple sclerosis after robotic rehabilitative treatment. Medicine. 98(17):p e15047, April 2019.
- 7. E Norouzi et al. Combined virtual reality and physical training improved bimanual coordination of women with multiple sclerosis. Neuropsychological Rehabilitation. 31(3) January 2020.
- 8. S Gorniak, et al. Impaired object Handling during Bimanual Task Performance in Multiple Sclerosis. Multiple Sclerosis International. Volume 2014. Article ID 450420.

The following pharmaceutical company has scheduled upcoming educational dinner programs.

Visit MAVENCLADevents.com or call 1-866-254-5621 to register for this event.

**Attendance is Limited!** Pre-Registration is required for attendee and guest. No walk-ins. All attendees must be 18 years of age, or older. Space is limited to 3 events per person, per topic, in a calendar year.

WHEN: Monday, July 17, 2023 TIME: 6:00 PM Central Time

WHERE: Moonlite Bar-B-Que, 2840 Parrish Avenue, Owensboro, KY

SPEAKER: Kristi Nord MD, Memorial Neurology, Speaker is sponsored by EMD Serono

Visit MAVENCLADevents.com or call 1-866-254-5621 to register for this event.

**Attendance is Limited!** Pre-Registration is required for attendee and guest. No walk-ins. All attendees must be 18 years of age, or older. Space is limited to 3 events per person, per topic, in a calendar year.

WHEN: Monday, August 7, 2023 TIME: 6:00 PM Central Time

WHERE: Biaggi's Ristorante Italiano, 6401 E. Lloyd Expressway, Evansville, IN

SPEAKER: Kristi Nord MD, Memorial Neurology, Speaker is sponsored by EMD Serono

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Thursday, August 24, Girls Night Out, Rolling Hills Country Club Thursday, October 19, Gehlhausen Fashion Event



**REMINDER:** If you haven't returned your newsletter renewal form (in last month's newsletter), **PLEASE** do so by **7/30/23**, to remain on the list! We want to hear from you and by updating your information; you will be included into a drawing for a Walmart gift card! **Thank you!**