

# BRAIN WAVES



ROSKAMP INSTITUTE & CLINIC NEWS | SEPTEMBER 2020



*If you or a loved one are interested in participating in studies on better understanding the immune system in Multiple Sclerosis, please contact us at 941-256-8018 ext 3056.*

*See page 2 for further details.*

## Delving Into The Immune System: Coronavirus, Multiple Sclerosis, and Aging

*Dr. Andrew P. Keegan, MD, Roskamp Clinic Medical Director*

As the coronavirus (specifically SARS-CoV-2) has our undivided attention, we are learning the importance of the immune system and the balance of its beneficial and detrimental roles. The immune system plays a vital part in defending us from bacteria and viruses amongst other dangerous microscopic predators, however, it also may overreact in certain situations. In the setting of some infections, notably the coronavirus, a *cytokine storm*\* may ensue, leading to an individual's demise. This is an extreme case of the immune system overresponding, but there are also more insidious instances of a simmering unwanted immune response.

In autoimmune diseases, it's this overreactive immune system that seems to be the culprit in damaging parts of the body. For example, in Rheumatoid arthritis, the immune cells attack certain joints leaving a person in pain with swollen joints that worsen during a flare up. Similarly, *Multiple Sclerosis (MS)* is an autoimmune disease where instead of the immune cells attacking the joints, they attack the coating (myelin) of the nervous system leading to weakness and possibly burning and numbness. These diseases may require treatments that "suppress" the immune system, but these may put some of those individuals at more risk of infections.

Now back to the coronavirus. We are hoping for a vaccine so we can become immunized- that is, we want our immune system to do its job and react to a small piece of the virus and create antibodies to fight for us in the event that we are exposed to the real virus. However, the process of becoming immunized, like most things in life, is influenced by aging. As our immune system grows older, it is less able to fight infections, and less able to mount a response to a vaccine (i.e. become

immunized). We are interested in understanding the aging immune system in multiple sclerosis, and this is particularly important during this time of the coronavirus. Perhaps there are certain people with autoimmune diseases for whom we can stop some of these medications that put them at risk for infections. Or, we may find that the immune system ages differently in autoimmune disease subjects and using a certain lab measure may help stratify those who should stop or stay on medications.

As we delve further into understanding the immune system, we find the complex details of this fine balance of the immune response important not only to chronic autoimmune diseases like multiple sclerosis, but also in how we must approach this recent devastating outbreak of coronavirus.

*\*Read Executive Director Michael Mullan's Covid19 perspective at <https://www.roskampinstitute.org/news/perspective-covid19>*



## About The Roskamp Institute Multiple Sclerosis Study – Seeking Volunteers.

*Study Title: Characterization of Immune Profile in  
an Aging Multiple Sclerosis Clinic Population.*

The Roskamp Institute, Inc. is conducting a clinical research study of the Characterization of Immune Profile in subjects with Multiple Sclerosis. The study will involve one visit to take place at Roskamp Institute.

Study visit will include blood draw and clinical assessments. Principal Investigator: Andrew Keegan, M.D. To volunteer, contact: Lois @ 941-256-8018 ext 3056

**GREY MATTERS  
2020**

**Friday, October 30, Noon to 1pm**



*Featured Speakers  
Roskamp Institute Executive Director Michael Mullan  
and President/CEO Fiona Crawford*

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For more information or to register by phone, call 941-954-1111

“We need to expand our research and clinic facilities to significantly increase our capacities for discovery and care. We are on the threshold of exciting new treatment advances that are desperately needed here in our community. Your support makes all the difference and we need your help now.”

Michael Mullan, M.D., Ph.D Executive Director  
Fiona Crawford, Ph.D President & CEO

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