



Multiple Sclerosis Association of America **Webinar Transcript**

Program Title: “What You Need to Know About COVID-19 and MS: Program 1”
Recorded On: March 30, 2020
Presenters: Barry Hendin, MD and Carrie Hersh, DO, MSC
MSAA Host: Peter Damiri

Peter Damiri: Hello and welcome to the Multiple Sclerosis Association of America’s Live Webinar, What You Need to Know About COVID-19 and MS. I am Peter Damiri, Vice President of Programs and Services for MSAA and your host for tonight’s program.

Before we begin, I just want to say on behalf of MSAA and our presenters we greatly appreciate the opportunity to be here tonight and provide you with this critically important information. Please know that we are all thinking of the entire MS community and hope you and your family stay safe and healthy in these uncertain times.

MSAA is extremely honored to have our MS expert advisors here tonight to educate us about the coronavirus pandemic and its impact on MS and to answer your questions during our expanded Q&A session at the end of this program. At this time I would like to introduce our special guest presenters, Dr. Barry Hendin and Dr. Carrie Hersh.

Dr. Barry Hendin is MSAA’s Chief Medical Officer and a practicing neurologist at Phoenix Neurological Associates. He is also the Director of the Multiple Sclerosis Clinic at Banner University Medical Center and Clinical Professor of Neurology at the University of Arizona’s Medical School. Dr. Carrie Hersh is the Chair of MSAA’s Healthcare Advisory Council.

She is a practicing neurologist and Assistant Professor of Neurology for the Cleveland Clinic Lou Ruvo Center for Brain Health in Las Vegas, Nevada. Dr. Hendin and Dr. Hersh, thank you both so much for

being here and taking time out of your very busy schedules to help us all better understand and stay safe on this critical health issue.

Dr. Hendin: Peter thank you. I think Dr. Hersh and I are both delighted to be able to join this new MSAA in what we also agree is an important topic for people with MS and for people who don't have MS in America.

Peter Damiri: Thank you, appreciate that. Well before we begin, I want to provide a few updates starting off by saying tonight's webinar is part of a series of programs on the Coronavirus with the next webinar being held on Monday, April 13 at 8:00 p.m. Eastern.

Dr. Hendin and Dr. Hersh will be back to provide us with the latest updates on the COVID-19 pandemic. Until we have the registration page created people can visit our website article at mymsaa.org/coronavirus and scroll to the bottom to sign up for COVID-19 email updates. Once again that's mymsaa.org/coronavirus.

I also want to thank our funders, Bristol-Myers Squibb, EMD Serono and Genentech for making this webinar series possible. As you may know MSAA is a national non-profit organization dedicated to improving lives today for the MS community. In fact this year marks our 50th anniversary as an MS organization. Listed here are just some of our many free programs available to people living with MS across the country.

I encourage everyone to visit our website at MyMSAA.org or give us a call at 1-800-532-7667. And lastly please know that we are recording and archiving this webinar and we will work to try to get it posted to our website as soon as possible. Also we have expanded the Q&A session to help address as many questions as you may have. During the program you will need to type your question into the chat box on the screen.

I will ask the presenters at the end once the Q&A session starts. When typing a question please try to make it as general as possible as they can apply to the larger MS community. Also if you're experiencing

technical issues with the webinar please type those questions into the chat box as well. So with all of that now covered I am honored to introduce once again Dr. Barry Hendin who will start the program.

Dr. Hendin: Thank you Peter. I suppose the way to begin to discuss the coronavirus and COVID-19 is to understand a little bit about the terminology. First the term coronavirus applies to a large group of viruses, many of which are quite innocuous.

But COVID-19 refers really to the clinical illness and it's derived from the term coronavirus disease so if you look at COVID-19 it really – it's made up of C-O Corona, V-I, virus and D, Disease, 19 from the 2019 origin in case that's mysterious to someone.

This virus and this mutation is really a serious respiratory inflammatory disorder. Those symptoms may present differently in different individuals, some of who will present with modest – some pathology, some of who will not present initially with respiratory origin is a big impact, its potentially severe impact and inflammatory disorder of the respiratory system.

Again it's part of a large family of coronaviruses, many of which are not associated with serious illness in people and in animals. In this particular instance the origins, more in a live animal market in China. The first report case was really late November, early December 2019 but it now affects every continent except for Antarctica and is widely spread across the country to the world, making it a pandemic.

One of the things that Dr. Hersh and I will probably stress is if our understanding of this virus. The coronavirus and this disease COVID-19 began in December. It really means that we have a full month's experience and a lot of what we're doing right now we're really learning. So to the extent that some of our answers are still general it reflects the fact that there's still a lot to learn and I think some of our answers are changing and some will change thereafter.

It's why I'm pleased that there's updates in a couple of weeks. I think that we are constantly updating ourselves with the information changes. Peter thanks, I'll go to the next slide.

So by and large this is a disorder that's spread from person to person. And the primary spread itself could be by droplets so coughing or sneezing and having that land on an individual particularly near their nose or mouth or eyes where that virus can get into that person's system. The individual who spread the virus generally is contagious but not always contagious.

So where as we think of the spread occurring from individuals who are coughing or sneezing or having fevers there are instances of spread certainly from people who are not highly symptomatic. I talked about droplets. Droplets may not only land on people but on surfaces and when they land on surfaces, they – the virus may persist on the surface for hours or days. It's why we stress hygiene and the social distancing both. Peter?

So the general rules that apply to anyone with MS, then applying to people who have no co-morbidities, no illnesses, the general population that is social distancing, making sure that we avoid close contact with people who are sick. You don't always know who they are so of course we're avoiding close contact with people who are visibly sick because we don't know necessarily who's carrying the virus.

I think social distancing is also a wise decision. Then stay home when you're sick, consult a medical professional. Many of us due to our state's advice are staying home in addition to being sick. That means many people are hunkering down at home whether or not their states are insisting they do so with less visits, decrease crowd contact and really working essential and trying to find smarter ways to do it to reduce person-to-person interactions for people who might be sick.

Obviously if you are coughing or sneezing you cover your mouth. You cover your nose and then we are learning wash your hands. Washing your hands for a 20 second wash, hand sanitizer but both – leaving them on disinfectant and it also disinfects those places that could be randomly contaminated with droplets in our workplace, in our home to make sure that we use sanitizers and make sure those surfaces particularly outside our house are clean and that we use wipes after touching.

And then again what we all should be doing, getting sleep, hydrating, staying active, staying as healthy as we can, eating well, managing stress. I will tell you that the managing stress part is particularly difficult

right now because both the concern about the virus, concern about contracting the disease, concern about the economic consequences and social consequences that most of us are going through has led to an increased amount of stress. We should never neglect that.

Those are the things that I wanted to say and I think Dr. Hersh will dive down a bit more specifically into MS and COVID-19. Dr. Hersh?

Dr. Hersh: Thank you so much Dr. Hendin and first I would like to thank everyone on the line tonight for joining us. And I would specifically like to thank the MSAA for putting together this wonderful program so that we can get critical and timely important information out to our MS community and our caregivers.

We all understand that this is a very anxiety provoking time and Dr. Hendin just mentioned about managing stress. But I also want to mention that in the MS community we are all here together and of course we are here to support all of our MS patients and our caregivers to the best of our ability.

So symptoms of coronavirus and what to do, so generally speaking these points of information are largely for not only the MS population but for everyone including your family members, your caregivers and your loved ones so the overall recommendation is that if exposed to this new coronavirus where Dr. Hendin has distinctly mentioned we're still learning a lot of information about every single day.

We do understand that the symptoms may appear within about two days to two weeks of initial exposure. The initial symptoms do include fever, cough and shortness of breath. However there have been anecdotes of other symptoms that have also been reported such as sore throat. There have been some reports of initial symptoms like having trouble with sense of smell or sense of taste but the most common symptom is I like to call it triad are fever, cough and shortness of breath.

Individuals who signs of the disease should contact their physician and isolate themselves from other individuals if they can. What we're all trying to do together is trying to decrease the amount of exposure all around. And of course we don't want to overburden hospital systems and our healthcare institutions

as much as possible and really save that for individuals who really can't stay at home. This is both for your safety and for others' safety as well.

So we generally recommend that unless it's a medical emergency those who are developing symptoms to not go directly to a medical facility to avoid spreading the illness if this is what it turns out to be but notifying our primary care provider will be helpful so that way you'll be able to get more additional information as things unfold.

So special considerations for individuals who do have MS, so seniors and my apologies here, seniors for this definition is 60 years and older but this is per CDC guidelines, not my own and others with certain health conditions like chronic heart disease, lung disease and especially uncontrolled diabetes are at greater risk for either acquiring the illness or perhaps having a more advanced to severe outcome.

Those who might be at greater risk also include people whose immune systems are either compromised naturally or are suppressed if they are on certain types of medications such as chemotherapy and perhaps if they're into these modifying therapies. But we're going to go into some other comments on that later on during the program because I'm sure we'll be making comments on disease modifying therapies at large.

I do want to preface that not all of these modifying therapies are immunosuppressant medications. A large number of them are considered immune-modulatory medications, meaning that they change the immune system but they do not necessarily compromise the immune system.

And an interesting point to this is that there are a number of disease modifying therapies that are currently being investigated early on as a potential treatment for COVID-19 because of their anti-inflammatory characteristics.

So we do have to consider the specific disease modifying therapy and not to make the global statement that all disease modifying therapies are immunosuppressive. To minimize risk many healthcare practitioners are conducting non-face-to-face communication.

So as you may or may not have already experienced MS centers are now starting to promote either telephone meetings, virtual meetings through different platforms and telehealth visits in order to minimize exposure, direct person-to-person contact to not only protect you and your loved ones but also to protect healthcare professionals at large so that we all can continue to help you.

For individuals with MS an infection may possibly cause a temporary flare up of symptoms, also called a relapse. So this is very similar and will likely not be different than other potential types of flare ups and symptoms that sometimes occur when someone is presenting with a urinary tract infection, a fever or another upper respiratory tract illness. We don't expect these kinds of temporary flare ups or pseudo exacerbation to present differently.

This is also to state that this is not an MS relapse that is actually causing new inflammation and new demyelination of the brain and spinal cord. This is the transient increase of symptoms that you have had before that are occurring because you are actually having an infection. The COVID-19 infection does not cause MS relapses.

Patients should continue their disease modifying therapy unless otherwise instructed by their healthcare provider and as we will probably go into in a little bit more detail later the risks and the benefits of any type of change or delay need to be weighed on an individualized basis with the MS provider.

So if coronavirus symptoms are suspected then it does make sense to contact the healthcare professional such as your primary care provider and discuss with your MS provider if your disease modifying therapy needs to be held or postponed because you may have the illness itself. Because we have over 15 approved disease modifying therapies, we're not going to be able to go through each and every one.

But the general recommendation would be – is that if you feel that you are coming down with any symptoms that are more characteristic of coronavirus or COVID-19 then you will need to contact your primary care doctor for instructions on either if you can get tested and where you can get tested and 2, to

make sure that you contact your MS healthcare provider to discuss whether or not you need to temporarily hold your disease modifying therapy while you are sick.

It's also important to stay home except to get medical care if you come down with symptoms that are suspicious for a coronavirus. While at home if you are able to separate yourself from other people if there is a separate part of the house, a room perhaps, then that will also reduce the likelihood of you spreading the virus to your loved ones in the home.

Your ability to transfer this over to someone else is no different than a general population. So we would recommend that you take the same precautions as anyone else in the general public. Call ahead before visiting a doctor. This is important because you want to allow the healthcare center to prepare ahead of time.

It's also important because they want to minimize exposure so they might be able to give you recommendations or information to do ahead of time before coming in to either get a test or if they feel that you need to be checked out more urgently.

And of course it's important to make sure that you are applying the coughing and sneezing etiquette that Dr. Hendin had gone over before, either coughing or sneezing into a handkerchief if you have that available or the crook of your elbow.

If you do happen to sneeze or cough in your hand then that will be the time for you to wash your hands very thoroughly for 20 seconds with at least micro-microbial or antibacterial soap if you have that available. Soap and water is better than nothing and an aqueous based hand sanitizer of 60 to 65% alcohol. If you are able to isolate from other people as we had mentioned before that will also reduce the direct person to person spread.

So that concludes the actual content portion of our program tonight. And I'm going to open up the panel for a Q&A session so we can start going through individual questions. So Peter I will allow you to kick us off.

Peter Damiri: Great. Thanks so much Dr. Hersh and thank you as well as thanks to Dr. Hendin for an excellent presentation, a lot of great information and insight there. And we have quite a few questions as you can imagine that came in so I will get to them now.

As you can imagine we did have a lot of questions on people's specific disease modifying therapies or known as DMPs and people wondering to know if they should stay on their current medication or stop or switch to another. So could either of you comment on this?

Dr. Hersh: Yes. Dr. Hendin, do you want me to take – take the lead on that or...?

Dr. Hendin: Why don't you take the and I'll – we tend to have a very similar opinion and I'd be delighted to have you start.

Dr. Hersh: Okay. So Peter, that is a fantastic question and of course a very critical and timely one. I first want to press that there are no formal guidelines and all of this is based on expert opinion because as Dr. Hendin had mentioned this is a new type of virus. So as the situation continues to evolve, we'll be collecting more information not only on the general population but subpopulations of interest like MS as time goes on.

The current overall recommendation is that people with MS not cancel, interrupt or delay their scheduled doses of their MS medications. We overall feel that the medication's mechanism of how they work and for how long they work along with the overall risk of MS disease activity coming back if they're not treated are all reasons to not delay treatment given the current lack of data on increased risk of COVID-19 infection and their complications.

Based on our best available current evidence which again is growing as time goes on and you know, in a couple of weeks as we have more information we'll see if any of this changes. But for most patients we think it is unlikely that stopping or delaying MS disease modifying therapy will reduce the susceptibility to either contracting COVID-19 or decreasing the risk of complications from it and just to prep this, this

recommendation is consistent with the recent guidance with the National MS Society about COVID-19 that is also available on their website.

But we are combining this general guidance with an individualized approach to managing MS that also raise the risk especially for those who are infusion therapy that would require you to go to another center where there may be more people.

And we need to balance this with the benefit of the treatment so if there are patients who have additional risk factors such as they're over the age of 60, they're residing in a nursing facility, they have other co-morbid conditions like cancer, cardiovascular disease, chronic lung disease, asthma, uncontrolled diabetes, patients with severe neurologic disability and I believe that I had already mentioned age greater than 60.

Those all need to be weighed on an individualized basis with the MS healthcare provider. So that's kind of my overall general scope of how to manage those patients who are continuing their existing disease modifying therapy but Dr. Hendin if you have any other nuanced thoughts of course please contribute.

Dr. Hendin: My thoughts are really much the same as yours. Maybe the best I could do is to re-emphasize the points you made and that is we are in a risk of COVID-19. Results of this – of MS untreated or undertreated or when treatment is delayed and the recommendations are there for that you set forth correctly are that we don't stop therapy nor delaying treating nor change therapies without really a discussion with your primary clinician.

The other point that you made that was brought clearly to my attention, I saw a number of patients this morning, this afternoon and that is how much every individual as usual must be considered because although we can give general principles of care as Dr. Hersh said everybody's got their own unique issues.

I had one patient earlier today who said in order to get to the infusion center I have to take public transportation and that in so doing I think I create a risk for myself that is unique and above and beyond others.

So I think those are the sorts of – we think about co-morbidities we think about the level of seriousness of MS. So how old are you? How young are you? How aggressive has your MS been? I do think it's a time to rethink as we should with everybody you see with MS.

The medications we're using still make sense, you say yes. Are there unusual circumstances that we need to take into consideration? Sometimes yes but the general principles remain. Don't stop your therapy. You don't delay your therapy and it's unusual to need to change a therapy certainly without discussing with your MS clinician.

Peter Damiri: Thank you so much.

Dr. Hersh: Fantastic Dr. Hendin. I absolutely agree with everything that you just said. Something else that I wanted to mention that I did not mention before is that especially for individuals who are on certain infusion medications that are more scheduled intermittently as opposed to taking a medication every day.

If you are able to, you know, continue to abide by the social distancing, trying to hunker down at home as much as possible to avoid additional unnecessary exposures, avoid touching your face and your neck, frequent hand washing, all of those hygienic maneuvers will also be additionally helpful for those who are nervous about going for their infusion therapy.

So if you're able to hunker down for the time being and I think it's becoming a little bit easier as Dr. Hendin had mentioned because a lot of these states are now enforcing shelter in place. That would also be a recommendation to help reduce unnecessary exposures.

Peter Damiri: Well thank you both so much. I appreciate that. There were several questions that came in about pain relievers whether it's ibuprofen or Advil or Tylenol and using those to affect the minor symptoms as well as any acceleration for COVID-19.

Dr. Hendin: So I might start out with this one. I think that area leaves some anecdotal discussion that I can pose as an example, maybe less ideal than Tylenol. That's really not based on science. It's based on opinion but a conservative approach may be that if you're concerned Tylenol is always a safe medication to go to unless there is some other health hazard that would prevent you from using it.

But I have not specifically precluded any particular medication so I am watching the information on non-steroidal anti-inflammatories like Ibuprofen. Right now it's opinion rather than fair science.

Dr. Hersh: Yes. I would also agree with you. The information that is being presented to the media on ibuprofen in coronavirus is speculative. This is anecdotal so this is based on what healthcare providers are seeing anecdotally meaning from case to case. But they have not been able to collate enough information for us to be able to generalize whether or not certain non-steroidal drugs like ibuprofen are truly harmful in fighting COVID-19 infection.

I would go on to say that if someone takes non-steroidal anti-inflammatory drugs for other reasons that are recommended by their healthcare provider, I don't think they necessarily need to stop it. I think that if for whatever reason they start developing symptoms that are suspicious for coronavirus and they are concerned or nervous about taking Ibuprofen based medication they can talk to their healthcare provider about switching on to something else or using Tylenol as an analgesic.

Dr. Hendin: I keep on wanting to remind us that this is an entity four months in the making. We're learning a lot. We're being forced to learn a lot in a short period of time but sometimes the science will really take a while to fully understand.

And so the opinions that we're giving are the best opinions we can give for this moment in time but I tell people all the time it's a moving target. Don't be surprised when recommendations change when we

have a better understanding of what's going on and modify these opinions. Again, all the more reason that I am grateful to MSAA for having this as a series rather than a one-time one.

Dr. Hersh: That's exactly right. I could not agree with you more.

Peter Damiri: Right, thank you. There were several questions that talk about going outside, taking a walk, going to their community pool to swim. Can you address those questions?

Dr. Hersh: Yes. Dr. Hendin if you want me to go ahead, I can start this conversation up. So you know, general recommendations especially what Dr. Hendin was talking about earlier during tonight's presentation was regarding taking care of yourself, making sure that you're eating nutritious food and you are remaining well hydrated, that you are managing the stress and getting enough sleep at night, good restful sleep and being physically active.

You know, currently there are a lot of limitations in terms of what is available. Gyms are closed. Parks are closed. Playgrounds are closed. But really you know, just going outside and being able to breathe some fresh air, as long as you are maintaining social distancing from other members who are not living in your household we certainly would recommend.

But it is important to make sure that not only are we remaining as physically active as we can especially folks who are living with MS but you know, going outside and taking a walk may also help release stress. And right now that is just as critical as physical health. It's mental health as well.

I don't believe that it is necessary nor recommended for people with MS to wear a mask or gloves when you're outside or anywhere else as long as you are asymptomatic. So I don't want you to have to worry about going out and buying a mask that may or may not actually give you any true protection, but really just maintaining those social distancing guidelines that have been put forth by the CDC.

Was talking about earlier during tonight's presentation was regarding taking care of yourself, making sure that you're eating nutritious food and you are remaining well hydrated, that you are managing the stress and getting enough sleep at night, good restful sleep and being physically active.

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Dr. Hendin: Just to begin as your comments with which I fully agree it's probably about physical health and it's also partly about mental health. If we believe that this was a – going to be a brief affair over a few weeks or a couple of months I think it would be different but none of us really know when the threat will diminish and really it is about having to live a life within the – within the boundaries or the new boundaries that have been set.

I think that for people's – Dr. Hersh talked about physical and mental health aspects and I would also – those physical aspects are pretty obvious but the mental aspects are also I think very important and that is people – most people need to get outside, get some fresh air, feel themselves a little closer to nature in the natural world. And one of the reasons you get outside is just remind yourself that there's something more than your living room.

When you do it you practice the same requirements for social distancing. You have all the same requirements that otherwise exist but I don't think it is mentally healthy that we can hunker down for months in a room or two. I think we must find ways to get outside, not social gatherings and not large groups but at least to get outside.

Peter Damiri: Great, thank you so much. As a somewhat related question on that, a question came in to say what precautions should we take around caretakers or family members who are still out working in the community and coming home.

Dr. Hendin: I don't think we have formal answers so much as common sense answers. It would be the person who is out, a caregiver or otherwise. So the person who's out and about may be a person with MS. Maybe the person's spouse or loved one because all of us have things that keep us at home or that allow us to get outside and I think to the extent that we worry about others and I would use this as an example, children of aging parents. What should their responsibility be?

I think number one, that they practice the same kinds of hygiene and precautions that will determine where we've gone through and that is social distancing, hand washing, how you protect yourself if you cough or sneeze, maintaining cleanliness of your environment, wiping down surfaces that may be contaminated. Even when you're well those are the things that you worry about bringing toward someone with MS, someone who doesn't have MS, your grandparents.

I think one can take it to the next level and that is coming home and changing clothes from your work clothes to home clothes, possibly taking a shower when you get home rather than the morning when you leave for work. And then a lot of the socialization can also be done Skyping. So as a grandparent I will tell you that our grandchildren are in fact getting together with us but more often by Skyping and less often by person-to-person visits during this more precarious time.

Peter Damiri: Great thank you.

Dr. Hersh: I absolutely agree with you. I have nothing further to add. That's perfect, very succinct.

Peter Damiri: Another question came in, any truth to Vitamin D helping in either preventing COVID or making it less severe?

Dr. Hersh: I would go ahead to say that I have not seen any data or information in order for me to answer that question. Obviously Vitamin D has been shown to be particularly helpful and effective as an adjunctive therapy.

Or an in-addition therapy complementary to a disease modifying treatment in MS, in preventing further disease progression and maybe one who has a genetic predisposition to developing, maybe even preventing the initial MS manifestation if Vitamin D levels are well supplemented. But I have not seen any direct information on Vitamin D itself as either a treatment or a preventative prophylactic strategy in preventing COVID-19.

I would just say as a general health measure Vitamin D supplementation is very helpful. There are folks throughout the entire country who are Vitamin D deficient even in locations where one would think that they wouldn't be because there's a whole lot of sunshine like here in Las Vegas. But when you are in a very hot climate during certain parts of the year you actually find yourself indoors more, wearing sunscreen that blocks the absorption of Vitamin D from UV rays.

So I'm usually recommending to my patients who are living with MS to be on a Vitamin D supplementation anyway just for overall health and there are also some other reasons to be on Vitamin D for cancer reasons, preventing cancer, for bone health. So I would just say as an overall strategy it's good to be on a Vitamin D supplementation but I don't know of any data on COVID-19 itself.

Dr. Hendin: And first of all I certainly agree with Dr. Hersh that most of my patients are taking some Vitamin D supplementation based on a number of things, including the fact that we know that the – that people with MS in general carry low Vitamin D levels than the population who don't have MS. But the question itself – and so I believe we're in the probability that Vitamin D does good for bones and for MS.

The question though is interesting to me because I think it comes from the origin and that is there any medication that we can use that would either the likelihood of getting MS – getting COVID-19. Well ((inaudible)) the seriousness of the – of the disease if in fact you contract it.

And I think it's safe to say right now we don't have a proven agent but that doesn't mean that we're not at the field working on multiple avenues to see whether there's something that we can do.

Again usually to understand the benefit of an agent the way we're used to for our disease modifying therapies they do a very, very expensive, time consuming protocols and you know them as the Phase 3 trials, randomized perspective bubble bind placebo controlled or active comparative false study.

We don't have time to do that with COVID-19. And as such you are going to read about speculations or possibilities which are being put into very, very fast protocols to see whether that's something we can do. So you will have read about Plaquenil. It's hydroxychloroquine or chloroquine. You'll read about antiviral agents. You'll read about even some of our MS disease modifying therapies as a possibility that by immunosuppressing they can reduce the immune response to the COVID virus and make it less severe.

None of us really have an answer to those questions yet but rest assured that's what all of us are trying to get to and that is if not today then the next time it comes around either medication current usage or one that gets developed for vaccines. They're all the desire of the international communities and of the MS community.

Peter Damiri: Okay thank you. Another question, are patients with MS likely to become sicker than the general public if they do contract coronavirus?

Dr. Hersh: That's an excellent question Peter. We actually were on as in MS healthcare professionals were on a town hall meeting just last week. And I would also like to preface this by reminding everyone like Dr. Hendin had mentioned earlier today that the information that you – we are providing in this moment is from the information, the data that are available to us up until this point.

We may know more information in a couple of weeks and I'll actually be interested to listen to our talk and our answers next – in a couple of weeks as opposed to what we were mentioning this week to see what has changed just for interest's sake.

But from our understanding we have not seen and again this is on an anecdotal basis on the few number of cases that have been made available to us, it does not appear that folks who have MS have a worse off disease course compared to the general population.

And that is making that statement just on MS itself so, you know, we have other what we've called variables to consider. So age is one of them, patients who have other healthcare conditions or what we call co-morbidities like asthma and diabetes and chronic heart and lung conditions that may actually increase one's severity of the disease. But just MS itself, we don't seem to see an increased severity of the disease course compared to the overall general population.

Dr. Hendin: I want to again complement your idea on this. I will say that Dr. Hersh and I have had conversations over the last month and year about wellness. And it brings to mind that some of the same principles that you would bring to trying to reduce the severity of this disease would be the same things we would bring to trying to reduce severity or impact or progression of MS. So it brings back the idea that smoking in fact may be a risk factor for more severe COVID-19, as well as a potential factor in more severe progressive MS.

And then you start to think about all the ways that we have been preaching about staying physically active, maintaining a healthy weight, exercising, maintaining good mental health, stopping smoking. I think all of those general principles that we've been trying to apply to the care of MS also apply to trying to make you better able to withstand some of what the people experienced with COVID-19. The only exception I would say is I do worry about as you do Dr. Hersh elderly patients with or without MS and those who's MS has affected their breathing already.

They've been less able to have a good cough, etc. So most people with MS I am fairly in agreement are not as incontinent but there may be factors in very severe MS and an aging population with or without MS that makes people a bit more susceptible.

Peter Damiri: Thank you for that.

Dr. Hersh: So Peter I know that we're starting – I know that we're starting to run a little short on time. I just want to make sure that we broached the subject. Folks who are living with MS being in the workplace because they know that that's a – probably the question that has been raised a number of times. I know that we're seeing that question come up quite a bit but just want to make sure we get to that discussion if that's all right.

Peter Damiri: Absolutely. That's great. We've had several questions especially coming through our health line about those situations where people with MS who have not disclosed to their employer that they have MS but are considered essential employees being concerned of going into work and not sure how to explain that to their employer.

And then people who have already disclosed that they have MS being feared that they're going to be discriminated and laid off by their employer because of an opportunity that they may take to not have them in their employment. So I know both of those are very difficult challenging situations but I appreciate any advice you can provide to our clients on that.

Dr. Hersh: Sure. Not to put Dr. Hendin on the spot but I'm actually curious on the – on your thoughts on that because this is a burning question really for everyone in how to handle these situations especially for our patients who are living with MS who are also healthcare providers and are either on the front line or being asked to be on the front line and maybe what we should be recommending to them specifically.

Dr. Hendin: Sure. Again I don't know that there is a one size fits all answer to this one but let me begin with some general principles. All of us entering the workplace are entering a place of increased risk if we're entering a place where there is a greater likelihood of getting COVID-19, for example healthcare professionals or

crowding where you can't get the proper social distancing. So I think it is at least fair for everybody including everybody with MS to say are we in a safe environment?

Is the environment protected for everybody including people with MS? Are the surfaces being cleaned regularly? Are people washing their hands? Are people who have a chance of illness who might otherwise be afraid to leave because of concern about their livelihood encouraged to leave by their management so that they don't infect others?

My first comment is especially for all of us to know that we're part of a general community in which we're all responsible for protecting each other and our work environment. I do go to work for a certain period of time but I have created more distancing by telephone, soon-to-be telephone to video.

But in my workplace it's clear that there is a real care for social distancing and the attempt to let everyone know that if you are not well, if you've got a fever or a cough that it's not recommended but mandatory that you go on – that you exempt yourself from the workplace.

With that having been said although we do not believe there is an exceptional increase in risk with MS it's still possible that with some of these modifying therapies or some of them there will be some increase in risk because of immunosuppression. It seems to be that that much more care needs to be provided.

Many people have been laid off, people who don't have MS and people who do have MS. It is an extraordinary problem for America right now, not just the physical health of America of our – of everybody around us. Most of the economic health of everybody around us, people are in fact in trouble.

If someone in a protected workplace were let go for a – because of a disclosed or undisclosed illness I would recommend that that be an issue brought to human resources if there is human resources and that their legal protection would be at least in place in many cases. Carrie what are your thoughts?

Dr. Hersh: I couldn't agree with you more. I think all of those are very succinct and to use your adjective very common-sense measures and those are recommendations that we are providing to our patients as well. I

agree. There is not – there is no one size fits all response to that. Our patients who are living with MS are you know, employed in different aspects of the workforce whether or not it be in healthcare or otherwise.

And certain folks who are living with MS may have additional risk factors beyond just living with MS itself so making the determination of whether or not someone should no longer go to work and be exposed is really going to be based on an individualized basis.

What I would recommend for those who are listening is 1, having a conversation with your employer at human resources if the ((inaudible)) is diagnosed, if it's disclosed. If it's not disclosed maybe using terminology that doesn't outright expose exactly what condition you have but just raise the alarm that you do have some concerns and what accommodations can be made available to you either whether or not that involves working from home, working in an area of the office where you are not having a whole lot of exposures where you can social distance yourself.

And at the very least you're able to you know, wash your hands, use hand sanitizers, not touch your face, try to avoid touching your face and then of course when you get home you know, changing your work clothes, maybe even taking a shower.

So I would say that largely I absolutely agree with you Dr. Hendin. It's a very timely and important question for everyone in this COVID-19 pandemic and I'm hoping that with time we'll be able to more succinct answers.

Peter Damiri: Great. Well thank you both so much and we actually have come up to the end of our time tonight.

This does conclude our program tonight and I want to thank everyone for joining us and especially Dr. Barry Hendin and Dr. Carrie Hersh for educating us about the coronavirus and its impact and ways for us to stay safe and healthy during this critical time.

I also want to thank our funding partners Bristol Myers Squibb, EMD Serono and Genentech for supporting this webinar series. As a reminder our next webinar on COVID-19 is Monday, April 13 at 8:00

Eastern. You can sign up for updates on this and additional Coronavirus information by going to MyMSAA.org/coronavirus.

As mentioned, tonight's webinar will be archived and we will work to get this onto our website very, very soon. And finally, please consider completing a very brief evaluation survey that is coming up next. So on behalf of MSAA, thank you once again for watching and please stay safe.