

RealTalk MS Interview: Cognitive Rehabilitation and MS with Nancy Chiaravalloti, PhD

[Listen to the podcast](#)

- JON STRUM: 00:01 I'm Jon Strum, and this is RealTalk MS. [music] It's December 12th, and we have a lot to talk about. Cognitive dysfunction is a common symptom of multiple sclerosis, at some point affecting more than half the people living with MS. And while cognitive issues like changes in memory, attention, information processing speed, and executive functions may not be among the most disabling symptoms of MS, they may be among the most disconcerting symptoms. Whether it's your short-term memory, the ability to find your way to a familiar destination that you've gone to hundreds of times, or your ability to follow conversations with friends or business colleagues, these are the kinds of real-world situations that can bring someone to a hard stop, recognizing that they're changing in profound ways that aren't outwardly apparent. And that's a scary feeling.
- STRUM: 01:13 Fortunately, researchers are making real progress in developing ways for people living with MS to improve their cognition. And joining me to talk about what researchers are learning and what types of cognitive rehabilitation are available today is Dr. Nancy Chiaravalloti. Dr. Chiaravalloti is the Director of the Center for Neuropsychology and Neuroscience Research and the Center for Traumatic Brain Injury Research at Kessler Foundation. She's also a Research Professor of Physical Medicine and Rehabilitation at Rutgers New Jersey Medical School. And Dr. Chiaravalloti's research is focused on cognitive rehabilitation, particularly in ways to stimulate new learning, memory, and processing speed. Welcome back to the podcast, Dr. Chiaravalloti.
- NANCY CHIARAVALLOTI: 02:01 Thank you for having me.
- STRUM: 02:02 So which cognitive functions are commonly affected by MS, and what are some of the early signs of cognitive impairment?
- CHIARAVALLOTI: 02:12 The most common cognitive deficit that we see in persons with multiple sclerosis is in processing speed. So processing speed is a term that refers to following along and being able to process information quickly as it comes in. After processing speed, we also see quite a bit of deficit in new learning in memory. So that's also a very common cognitive deficit we see in persons with MS. Some people also experience other cognitive deficits such as problems with executive functioning or attention, but those are less common than processing speed and new learning in memory. When someone feels like they are starting to experience cognitive deficits, what they typically report is that they're feeling cloudy or they're having trouble following along in a conversation. And that's particularly common when you have multiple people engage in the conversation or you're in a very distracted environment, such as a cocktail party. So people may experience those types of things early on that kind of clue them into the fact that they may be starting to have some cognitive problems.
- STRUM: 03:22 I know that people sometimes associate cognitive dysfunction with progressive MS. Is that an accurate assumption?

RealTalk MS Interview: Cognitive Rehabilitation and MS with Nancy Chiaravalloti, PhD

- CHIARAVALLOTI: 03:31 No. Cognitive deficits can occur across all subtypes of multiple sclerosis. Roughly 50% of people with relapsing remitting MS experience cognitive deficits. And then the incidence of cognitive deficits rise in the secondary progressive and primary progressive subtypes. So you can experience cognitive deficits no matter what type of MS you have.
- STRUM: 03:56 So tell me, what is cognitive rehabilitation and how might it help someone with MS?
- CHIARAVALLOTI: 04:02 So cognitive rehabilitation is a term that refers to a set of interventions. It's not only one treatment. It's a set of different interventions, but they all aim to improve a person's ability to perform cognitive tasks by retraining previously learned skills or teaching compensatory strategies. So cognitive rehabilitation does not involve medications. It's usually done with a therapist, either one-on-one or in a small group.
- STRUM: 04:31 Cognitive rehabilitation includes restorative activities and compensatory activities. Can you help us understand the difference between the two and maybe share some examples?
- CHIARAVALLOTI: 04:43 Sure. Restorative cognitive rehabilitation seeks to improve cognitive functioning by strengthening the functions a person has lost or continues to find challenging. So restorative cognitive rehabilitation helps a person practice skills so that they can improve. And that builds upon the idea of neuroplasticity, which is the belief that the brain can change with practice. So restorative cognitive rehabilitation really refers to repetitive practice. Compensatory cognitive rehabilitation is a little bit different in that it helps a person develop new ways to do something. Compensatory cognitive rehabilitation can involve internal or external strategies. We all use external strategies. An example of that is using your iPhone to store your calendar and your to-do lists and your phone numbers. Everything goes in my phone so that I don't forget things. That's an external strategy that we all use.
- CHIARAVALLOTI: 05:45 Internal strategies, a lot of people also use, and these are strategies where you process information a little bit differently to help you remember it. So as an example, you might use imagery to help you remember a person's name when you first meet them. Or you might use imagery to help you remember a number. One of the things that I do is I'll visualize an old-fashioned telephone and where the numbers are on the face of the phone. And I'll use that to help me remember numbers. So a lot of us use internal strategies as well, and internal strategies can actually be very effective in helping us improve our learning and memory.
- STRUM: 06:29 The modified story memory technique is something that was researched and developed by you and your colleagues at Kessler Foundation. And today, it's considered Class 1 evidence, meaning that it's been tested and proven to be highly effective at improving memory. Can you tell us about this therapy and how it can help people with MS?
- CHIARAVALLOTI: 06:51 Sure. The modified story memory technique is a 10-session cognitive rehabilitation program. The sessions are one-on-one. And through those 10 sessions, the person is taught to use two strategies to enhance their learning and memory. The sessions 1

RealTalk MS Interview: Cognitive Rehabilitation and MS with Nancy Chiaravalloti, PhD

through 4 focus on imagery. So we present a story and we ask people to form mental images of that story to help them remember it.

- STRUM: 07:16 Recently published results from a large international clinical trial showed that cognitive rehabilitation and exercise can improve processing speed in people with progressive MS. We know that exercise is important for our physical health. How important is exercise or physical activity for our cognitive function?
- CHIARAVALLOTI: 07:37 It's extremely important. I cannot overemphasize the importance of being active. You don't have to run a marathon, but if you walk briskly every day, that's really going to help you maintain your cognitive function. And this is true for everyone, not only individuals who have multiple sclerosis. Exercise is very important to maintaining optimal cognition. And one of the things we're actually doing now is running a trial where we combine exercise with the story memory technique to see if we combine these two methods of improving cognition, do we get even better results?
- STRUM: 08:11 What types of healthcare professionals are trained in cognitive rehabilitation? And how can someone go about finding a qualified professional?
- CHIARAVALLOTI: 08:20 There are several different types of professionals that are trained in cognitive rehabilitation. Certainly psychologists. They're probably, in an outpatient setting, the most common professional that will administer cognitive rehabilitation. In a rehabilitation setting, you also see occupational therapists as well as speech therapists that are well trained in administering cognitive rehabilitation. So those are really the three professions that focus on it. If you're looking to get some cognitive rehabilitation, the first thing I would do is talk to your neurologist. Neurologists generally have several neuropsychologists or cognitive therapists that they work with that they'll be able to refer you to. And this is particularly true if you go to an MS Center. MS centers often have these different types of professionals that are part of their centers, and they work with them and refer their patients to them.
- STRUM: 09:16 Well, Dr. Nancy Chiaravalloti, thank you for all you do to improve the quality of life for people living with MS. And thanks for talking with me today.
- CHIARAVALLOTI: 09:26 Thanks for having me. It was a pleasure.
- STRUM: 09:28 That's going to wrap up this episode of RealTalk MS. RealTalk MS is powered by the National MS Society. And you can share this episode of the podcast by letting your friends or family members know that all they have to do is point their web browser at [realtalkms.com/328](http://realtalkms.com/328). You'll find that link in today's show notes so you can easily copy and paste it right into an email or a text.