## Assessment of Cognitive Changes in MS
## Featuring: Dr. Fred Foley & Dr. Anthony Feinstein

**Dr. Fred Foley**

Studies on self-perceptions of cognitive impairment in MS have found that by in large, the person with MS who has cognitive impairment can't tell accurately that they do. This leads them to have increasing difficulties at work, um, threat of job loss, and other problems in managing their economics, and daily life, and relationships. So they're very important to, uh, develop these screening tools so that people with MS can get screened, properly assessed, and treated for this problem. Many persons with MS that, uh, complain to their healthcare provider that their thinking is different, or that they have a memory problem don't know what to expect.

They don't know what a neuropsychological test is, and nor should they. It's a kind of specialty unto itself. Neuropsychological tests are largely either computerized or paper-and-pencil tests in which the person is asked questions to determine can they learn and remember things as well as they should for a person of their education and age? Can they attend to and concentrate, uh, as well as they should for a person, again, of their education and age? So there are many different cognitive abilities that we have, like, processing speed, how quickly we can think.

The most common cognitive problem in persons with MS, is slow processing speed. And from a cognitive perspective, all of our cognitive abilities are connected to all of our other cognitive abilities. So that if we're thinking more slowly because of slower processing speed, well, that's going to impact our ability to learn and remember things. It's going to impact all of our other cognitive abilities.

If you can't detect them, you can't treat them, or even assess them properly. We're currently doing a series of other studies to, uh, shorten standard neuropsychological tests that have been found to be valid in MS to see if we can make feasible screening tools that are reliable and valid, and will allow that health care professional to rapidly detect whether or not a cognitive impairment is present. So we're excited about that, because without proper screening, we can't treat persons with MS. And, uh, they may not know that they have a cognitive impairment.

**Dr. Anthony Feinstein**

We've shown that some focused computerized testing can be a very effective cognitive screen for patients with multiple sclerosis.  A patient comes into a room. There's a big sign that's put up outside that says, silence, testing in progress and the person sits there in an environment that bears no resemblance to their work environment so to try and make our tests more valid in terms of real world functioning, we're starting to use computers to recreate what a real world environment might be. So, for example, we can give them a test of information processing speed on a computer but in the middle of the testing, the computer starts ringing like a telephone and their job is to try and avoid the distracter and stay on task. Or you might hear a car horn that sounds through the computer, once again to simulate the kinds of challenges that individuals can confront in day to day life that could completely derail their ability because we know that MS patients have problems with attention and saying on task and so we're trying to see how we can tease this out in there, in the lab, while simulating real world circumstances.

We're very careful not to overreach ourselves in terms of our conclusions because it's only ten minutes of testing but it does appear to be valid in terms of teasing out who's going to have the intellectual difficulties.