

WEBINAR & TELELEARNING SERIES



Cognition Research and Practical Strategies

December 12, 2017

Presented by:



**Genentech | Novartis | Teva Pharmaceuticals | Acorda Therapeutics
Celgene | Mallinckrodt Pharmaceuticals | United Way of Eagle River Valley**



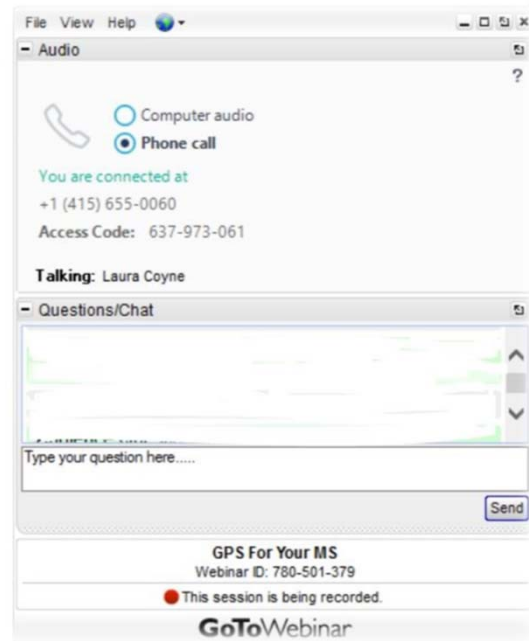


**National
Multiple Sclerosis
Society**



How to Ask Questions During the Webinar:

- Type in your questions using the **Questions/Chat** box
- If box is closed, click **+** to expand



**Go-To-Webinar Attendee Support Line:
(877) 582-7011**

Abbey J. Hughes, PhD



*Assistant Professor
Johns Hopkins University School of Medicine
Dept. of Physical Medicine and Rehabilitation
Baltimore, MD*

**Pamela H. Miller,
MA, CCC-SLP**



***Speech-Language Pathologist
Can Do MS Program Consultant
Lafayette, CO***

WEBINAR & TELELEARNING SERIES



Cognition Research and Practical Strategies

December 12, 2017

Presented by:



**Genentech | Novartis | Teva Pharmaceuticals | Acorda Therapeutics
Celgene | Mallinckrodt Pharmaceuticals | United Way of Eagle River Valley**



Program Overview

- Cognition, the brain, and MS
- Common cognitive difficulties
- How is cognition assessed?
- What is cognitive rehabilitation?
- Which strategies are most helpful?
- “Sandra” (example)
- What can I do?

True or False?



True or False?

- Cognitive difficulties only affect people with progressive forms of MS.
- Cognitive difficulties and physical difficulties go hand-in-hand.
- Cognitive difficulties don't interfere with employment, social functioning, emotions, or overall quality of life.
- Once someone with MS experiences cognitive difficulties, there is nothing they can do to improve their situation.

True or False?

- ~~Cognitive difficulties only affect people with progressive forms of MS.~~
- Cognitive difficulties and physical difficulties go hand-in-hand.
- Cognitive difficulties don't interfere with employment, social functioning, emotions, or overall quality of life.
- Once someone with MS experiences cognitive difficulties, there is nothing they can do to improve their situation.

True or False?

- ~~• Cognitive difficulties only affect people with progressive forms of MS.~~
- ~~• Cognitive difficulties and physical difficulties go hand-in-hand.~~
- Cognitive difficulties don't interfere with employment, social functioning, emotions, or overall quality of life.
- Once someone with MS experiences cognitive difficulties, there is nothing they can do to improve their situation.

True or False?

- ~~• Cognitive difficulties only affect people with progressive forms of MS.~~
- ~~• Cognitive difficulties and physical difficulties go hand-in-hand.~~
- ~~• Cognitive difficulties don't interfere with employment, social functioning, emotions, or overall quality of life.~~
- Once someone with MS experiences cognitive difficulties, there is nothing they can do to improve their situation.

True or False?

- ~~• Cognitive difficulties only affect people with progressive forms of MS.~~
- ~~• Cognitive difficulties and physical difficulties go hand-in-hand.~~
- ~~• Cognitive difficulties don't interfere with employment, social functioning, emotions, or overall quality of life.~~
- ~~• Once someone with MS experiences cognitive difficulties, there is nothing they can do to improve their situation.~~

True or False?



True or False?

- There are specific techniques you can learn to help manage cognitive dysfunction.
- Cognitive rehabilitation treatment should be individualized to meet your specific needs.
- Maintaining overall health and wellness is one of the best ways you can work to reduce your risk for cognitive decline.

True or False?

- **There are specific techniques you can learn to help manage cognitive dysfunction.**
- Cognitive rehabilitation treatment should be individualized to meet your specific needs.
- Maintaining overall health and wellness is one of the best ways you can work to reduce your risk for cognitive decline.

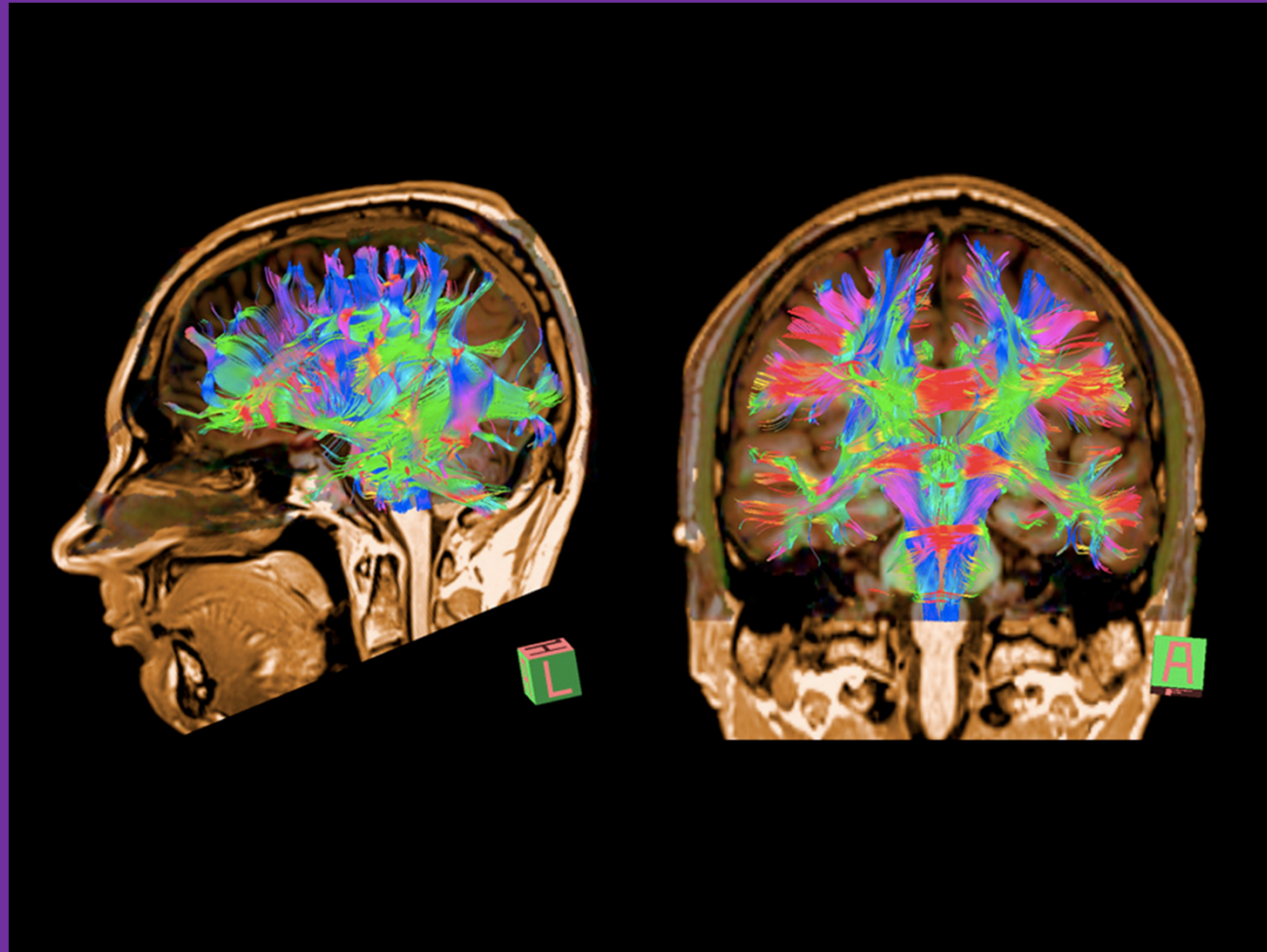
True or False?

- **There are specific techniques you can learn to help manage cognitive dysfunction.**
- **Cognitive rehabilitation treatment should be individualized to meet your specific needs.**
- Maintaining overall health and wellness is one of the best ways you can work to reduce your risk for cognitive decline.

True or False?

- **There are specific techniques you can learn to help manage cognitive dysfunction.**
- **Cognitive rehabilitation treatment should be individualized to meet your specific needs.**
- **Maintaining overall health and wellness is one of the best ways you can work to reduce your risk for cognitive decline.**

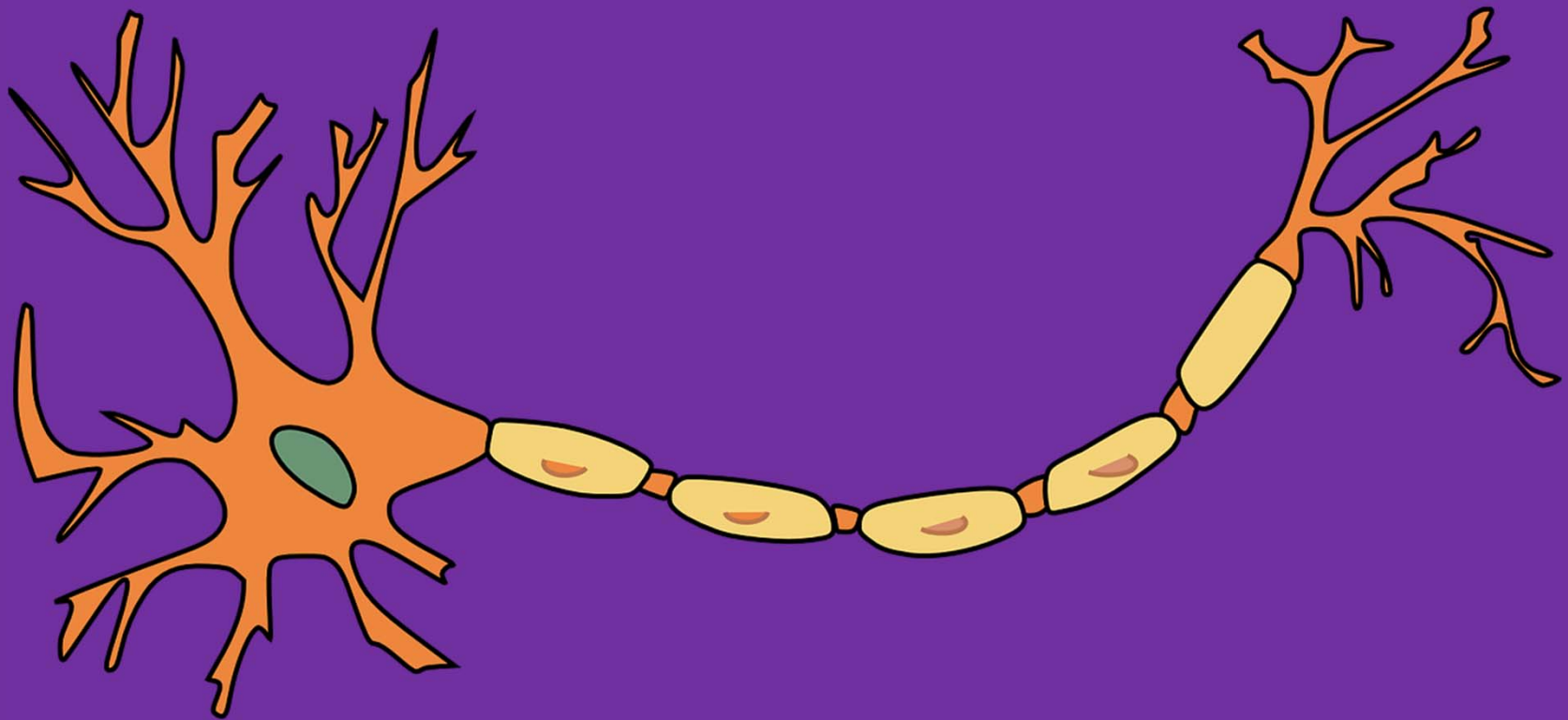
Cognition, the Brain, and MS



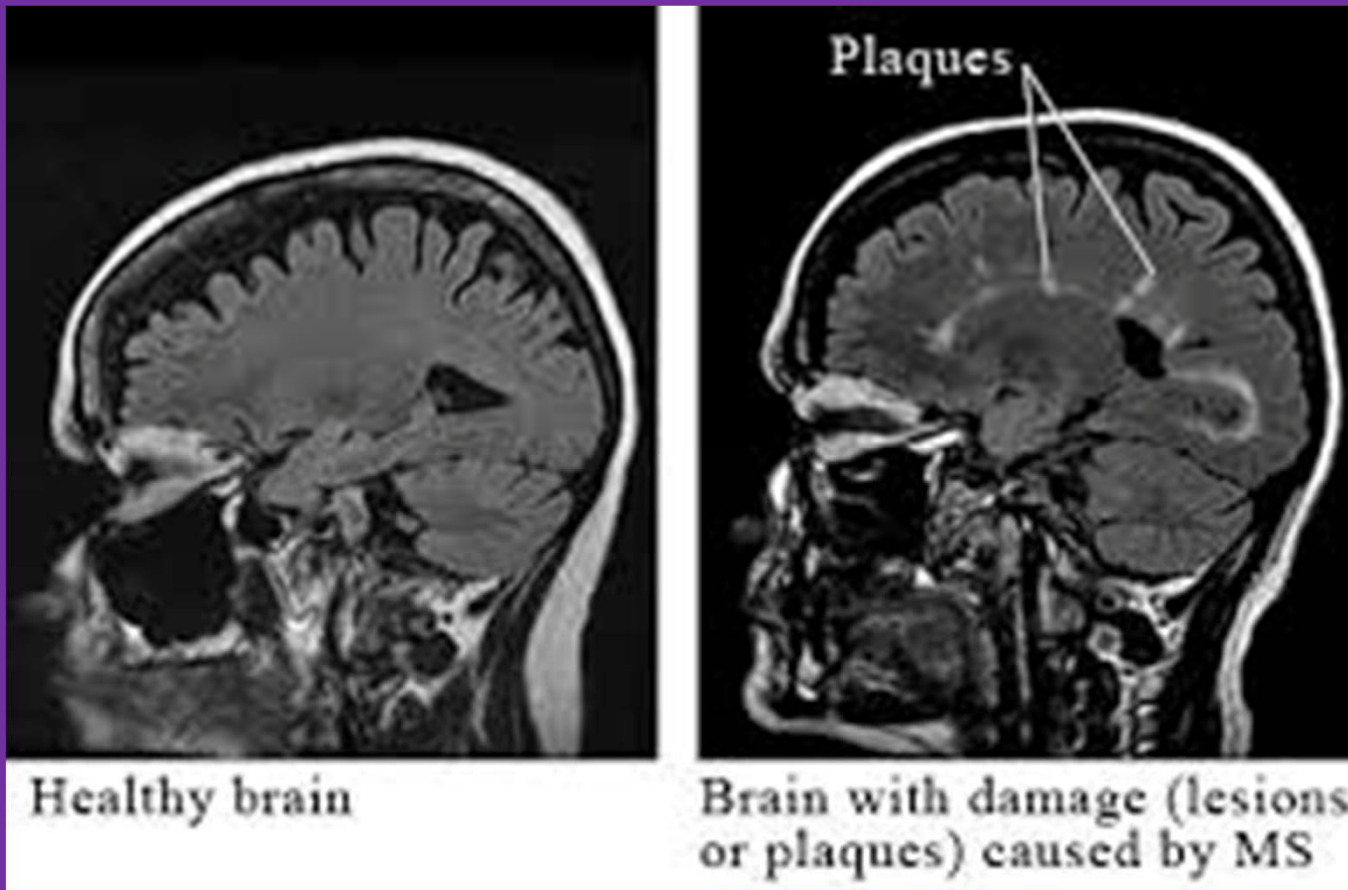
Cognition, the Brain, and MS



Cognition, the Brain, and MS



Cognition, the Brain, and MS



Cognition, the Brain, and MS



Cognition, the Brain, and MS

- So what can go wrong?

- Signal slows down



- Signal gets distorted



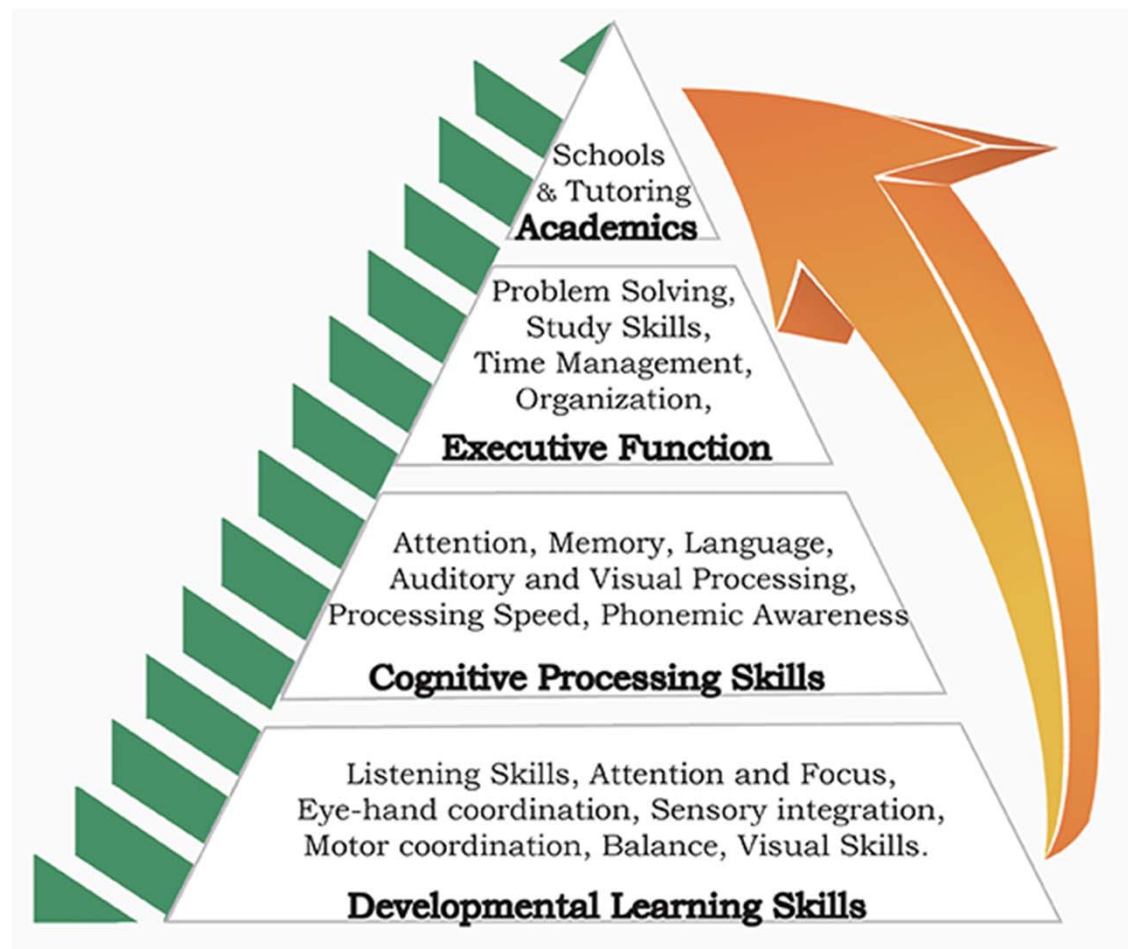
- Signal gets lost



Common Cognitive Difficulties

- Processing Speed
- Attention
- Working Memory (“short-term memory”)
- Learning
- Memory (“long-term memory”)
- Executive Function (planning/organizing)
- Meta-cognition (thinking about thinking)

Common Cognitive Difficulties



Common Cognitive Difficulties



Common Cognitive Difficulties



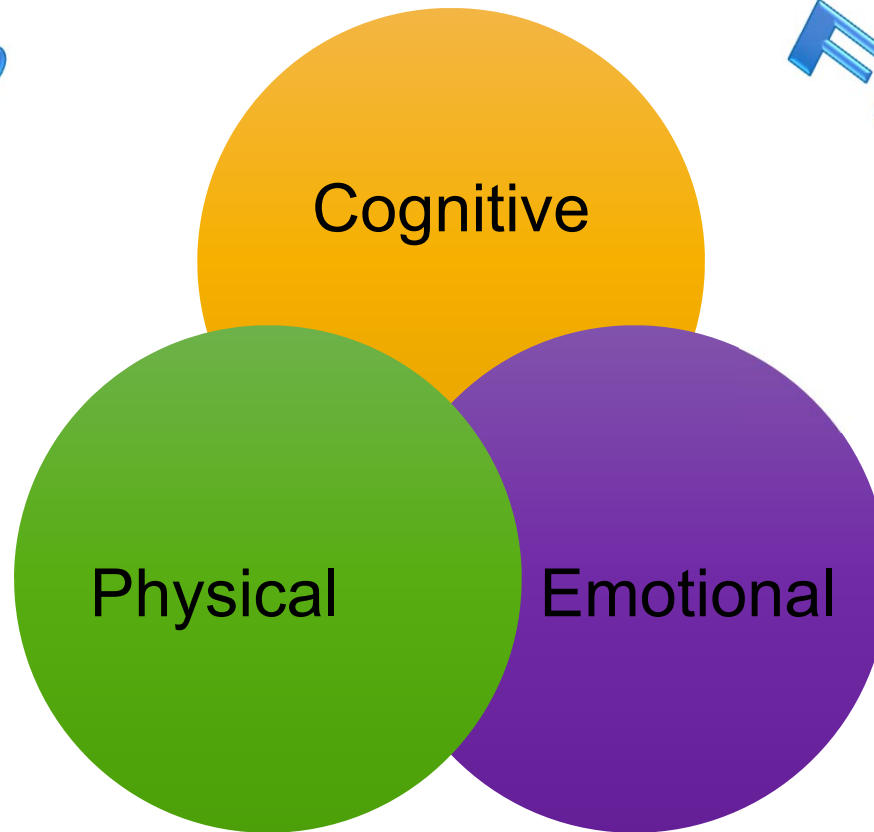
Common Cognitive Difficulties



Assessing Cognition

Stress

Fatigue



Assessing Cognition

Whom do I turn to for help?

- Physician/Nurse
- Neuropsychologist/Psychologist
- Speech-Language Pathologist
- Occupational Therapist

Assessing Cognition

What can I expect from a cognitive evaluation?

- Clinical interview
- Testing
- Results and recommendations

What is Cognitive Rehabilitation?

A systematic, individually designed treatment program to improve a person's everyday functioning and quality of life by relearning or compensating for specific cognitive problems identified during formal assessment.

Cognitive Rehabilitation: Main Components

1) Education:

About cognitive strengths & weaknesses

2) Process Training:

Techniques to restore lost function

3) Strategy Training:

Internal and external compensations

4) Functional Activities Training:

Application to daily life activities

Practical Considerations

Which cognitive strategies would help me better manage my daily activities?

- Attention
- Information Processing
- Memory and Learning
- Planning and Completing Tasks
- Problem Solving
- Word Retrieval

Attention Hierarchy & Strategies

5) Divided Attention: Multi-tasking

Avoid; Try to do 1 thing at a time

4) Alternated Attention: Switching

Complete task; Signal “wait”. Leave self cues.

3) Sustained Attention: Concentration

Know your time limits and stay within

2) Selective Attention: Foreground-Background

Minimize distractions; Move to a quiet place.

1) Focused Attention: Alertness

Know MS fatigue; Schedule rests; Plan tasks.

Information Processing Strategies: Regulation Of Input

BECOME AWARE

- Too Fast?
- Too Much?
- Too Complex?
- Too Long?
- Too Noisy?
- Overloaded?

TELL NEEDS

- “Slower please.”
- “A little at a time.”
- “Use different words.”
- “Break it down.”
- “Need Quieter room.”
- “Let’s take a break.”

Memory/Learning Strategies

INTERNAL

- Consolidate & Reorganize Info
- Repeat & Verify
- Spaced Rehearsal
- Create Mental Picture
- “See it. Say it. Hear it. Write it. Do it.”
- Build Associations/Story. Use Context. Personal.
- Use “WH?” format: “Who, what, when, where why?”

EXTERNAL

- Organize & Simplify
- Planners/Checklists
- Pill Organizers
- Electronic Devices: Smartphone/E-Tablet
 - Text/Email self
 - Calendars/Alarms
 - Recorder/Voice activate
 - Contacts/Camera
 - APPS: GPS, Parking, Groceries, Medications

Task Analysis Chart:

Planning, Completion & Self-monitoring

1) Define the Task

2) Get Info & Materials

3) Plan the Steps

4) Set the Timeline

5) Start the Task

6) Complete it

7) Evaluate outcome

8) Modify, as needed

Problem Solving Flow Sheet: Planning & Flexibility

- 1) Define the Problem
- 2) Identify your Goal
- 3) Analyze Pros & Cons
- 4) Develop Alternatives
- 5) Analyze “If-Then”
- 6) Choose Best Plan
- 7) Sequence the Steps
- 8) Follow them
- 9) Evaluate Outcome
- 10) Modify, as needed

Word Retrieval/Fluency

COMMON COMPLAINTS

- Lapses in conversation
- Losing train of thought
- Difficulty retrieving specific word
- Requires more time to formulate and express thoughts

STRATEGIES

- Be aware of internal-external distractions
- Allow extra time. Reduce stress: “It’s OK.”
- Cue Self: Describe it. “Type of.” Visualize it. Gesture. “Begins with.”
- Choose next best word to express idea
- Ask for help
- Reinforce specific word when retrieved.

Cognitive Rehabilitation: Research Findings

Review Article

Evidenced Based Cognitive Rehabilitation for Persons With Multiple Sclerosis: An Updated Review of the Literature From 2007-2016

Y Goverover et al. Arch Phys Med Rehabil. 2017 Sep 25. [more](#)



Cognitive Rehabilitation: Research Findings

- **Class I Evidence (highest quality)**
 - Modified Story Memory Technique (mSMT)
 - Attention Process Training (APT)
 - RehaCom
- **Practice Standard**
 - mSMT for learning and memory
- **Practice Guidelines**
 - APT for attention
 - RehaCom for general cognitive abilities

“Sandra”

- “Sandra” is a 42 year-old woman with MS
- Diagnosed 8 years ago with RRMS
- Works full-time as a regional manager for a large clothing store chain
- Married with 2 daughters (5 and 10)
- Two years, she had a relapse that temporarily limited her ability to use her right leg. She was treated with steroids and regained most of her mobility. Her neurologist changed her MS disease modifying therapy and she has had no relapses since.

“Sandra”

- At work, she feels her performance never quite returned to “normal.”
- She has difficulty coordinating large orders, leading high-speed training sessions, and has significant fatigue after 4pm.
- She’s feeling the pressures building up and is now worried about keeping her job and providing for her family.

“Sandra”

- Sandra’s neurologist referred her to a rehabilitation psychologist to assess:
 - Cognitive function
 - Emotional function
 - Family/social function
- ...and to make recommendations...

"Sandra"

- Sandra completed an evaluation with the rehabilitation psychologist, which showed
 - She had some slowed processing speed compared to other women of her age and education level
 - This limited how much information she could learn in a single sitting
 - This also limited how quickly she could speak or find words
 - BUT – for the things she did learn, she was able to recall them weeks later
 - She also had GREAT problem-solving skills

"Sandra"

- Her results also showed:
 - She is quite stressed
 - She has trouble falling asleep because she often lays in bed worrying
 - She wakes up frequently to use the bathroom and her muscles sometimes have spasms making it difficult to fall back asleep
 - She has some blurred vision especially at night when driving home from work
 - She reported loss of interest in activities she used to enjoy

"Sandra"

- For Sandra, the rehabilitation psychologist recommended:
 - Working with a **speech-language pathologist** for **cognitive rehabilitation** to learn strategies for coping with slowed processing speed and enhancing learning
 - Working with the **rehabilitation psychologist** to improve **sleep** and **mood**
 - Referring to a **urologist** to consider treatments for urinary frequency

“Sandra”

- For Sandra, the rehabilitation psychologist recommended:
 - Referring to a **sleep medicine specialist** to rule out sleep disorders (e.g., sleep apnea)
 - Referring to an **ophthalmologist** for a thorough vision workup
 - **Workplace accommodations** to help Sandra cope with fatigue (e.g., frequent breaks, abbreviated meetings, rearranging her schedule to focus on one project at a time)

"Sandra"

- After 6 months:
 - Some improvements in learning efficiency
 - Significant improvements in mood
 - Significant improvements in sleep
 - New glasses
 - Less frequent nighttime urinary symptoms
 - Improved sense of self-efficacy
 - Lower stress
 - Higher quality of life
 - More engagement in social activities

What Can I Do?

- Overall Health and Wellness
 - Physical Activity
 - Sleep
 - Nutrition
 - Emotional Health
 - Cognitive Engagement and Strategies
- Engaging family/friends/co-workers

When to Ask for Help

- When cognitive problems are interfering with how you are functioning in daily activities (at home, work or in the community)
- Some examples are difficulty:
 - Remembering/completing home routines or job tasks
 - Keeping up or focused in conversations or on tasks
 - Solving problems or making decisions
- When safety, independence and quality of life are compromised due to cognitive problems

How to Get Help

- Speak openly with your care partner
- Make an appointment with referring physician
- Describe specific problems you are noticing and how they are interfering with your life
- Ask for cognitive evaluation/treatment order:
 - Neuropsychologist/psychologist
 - Speech/language pathologist
 - Occupational Therapist(Depending on needs, availability and MS expertise)

Questions/Comments



Abbey Hughes, PhD



Pamela Miller, MA, CCC-SLP

If you are enjoying tonight's presentation, please consider donating to our programs:



Text to donate: 970-626-6232

<https://www.mscando.org/get-involved>



Can Do MS Resources

e | NEWS
your best life update

Q&A

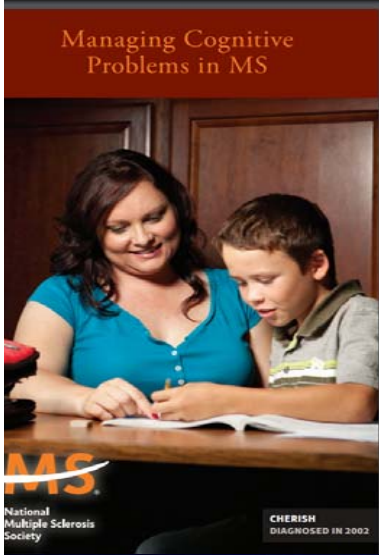
Can Do Library



Find these resources at www.MSCanDo.org.



National MS Society Resources



MOOD & COGNITION IN MS:
[WHAT YOU CAN DO]



National Multiple Sclerosis Society



Study Explores Exercises to Improve Cognition in People with MS
By John Guandolo




nationalMSsociety.org

WEBINAR & TELELEARNING SERIES



SMART Start To 2018: Goal-Setting To Your Wellness

January 9, 2018

Presented by:



Genentech | Novartis | Teva Pharmaceuticals | Acorda Therapeutics
Celgene | Mallinckrodt Pharmaceuticals | United Way of Eagle River Valley



Text-to-Donate

Help support our webinars with a donation
by texting

970-626-6232

Thank you!

