People with chronic illness, chronic stress, and chronic problems often report having memory difficulty.

- My brain just doesn’t work as well as it used to
- I seem to be more scatter-brained than I used to be
- I just don’t feel like myself these days
- I feel like I’m in a fog

We don’t know why memory and cognitive functioning (thinking) gets worse in chronic pain and fatigue conditions. Recall the long-term stress response, in which the body is trying to conserve energy. When energy conservation is taking place, energy for complex thought is diminished.

How does memory work?
There are 3 basic parts to memory.
1. **Attention**: In order to remember something, it has to get into your head in the first place. For example a car may drive by, but if you do not notice it, you cannot remember it.

2. **Storage**: Think of your brain as a computer. You have active memory (like RAM: which holds about 7 pieces of
information) and you have long-term memory (like your hard drive). If you have too much information coming in too fast, it won’t be stored properly and simply piles up only to be forgotten. Sometimes our ability to store information is slowed down (e.g., if you are tired or on medication).

3. Retrieval: You may attend to and store information perfectly; but if you forget where you stored the information, you won’t be able to access it. Imagine your filing cabinet. If the papers that are stored in it are carelessly piled into the drawer, retrieval will be difficult. On the other hand, if papers are filed in labeled folders, you are more likely to find what you are looking for. The same is true of how you store and retrieve information in your memory.

How do I improve the 3 parts of memory?

This module will cover tools known as Mnemonic Systems that you can use to improve your memory. They usually include working with information to increase: attention, meaningfulness, organization, association, and visualization.

Attention
Frequently when people say they cannot remember something it is likely they weren’t paying enough attention to begin with. If you want to store something in long term memory, you must pay attention to it and concentrate on it. Failure to pay attention is another reason for absent-mindedness. The antidote is to pay close conscious attention to what you need to remember by saying it to yourself out loud.

TRY THIS:
Consciously announce your actions at home.

Problem: Not knowing why you’ve gone into a room
Solution: Each time before leaving a room say out loud what you are going to do in the next room.

Problem: Not knowing where you left your keys
Solution: Each time you put your keys down, say out loud where you have just laid your keys.

Some Additional Attention-Boosting Strategies
Your brain is like any other part of your body. You have to use it in order to keep it in shape. We frequently think of exercising our arms and legs but may go days without exercising our brains.

TRY THIS:
Here are some ideas for Brain Exercises:
♦ Daily cross-word puzzles
♦ Daily brain teasers
♦ Play chess
♦ Play video games that involve strategy
♦ Read books daily
♦ Read several newspapers daily

Brain Stimulators
Your brain is where all of your senses process information. Remember the last time you saw something really exciting, smelled something really good, heard something that sounded beautiful, tasted a really good meal, or felt something truly stimulating? These sensory events wake up the mind. You need to wake up your mind on a daily basis.

TRY THIS:
Try to expose yourself to stimulating sensory events (all 5 senses) on a daily basis. You might be surprised that your senses are actually more sensitive than they used to be. Remember our discussion in the Stress Chapter that suggested that the long-term stress response might actually exaggerate our sensory awareness, making sensory experiences more noticeable.

Smells and Tastes:
♦ Cook or seek out a favorite restaurant and treat yourself to favored dishes. (Think of this as therapy not self-indulgence)
♦ Try new dishes
♦ Smell perfume just for fun
♦ Go to the store and sample the free samples
Visual:
♦ Watch travel films or actually do some traveling on your own
♦ Go to more movies
♦ Review your photo albums

Sounds:
♦ Listen to more music
♦ Try and spend time listening to nature each day

Touch:
♦ Consciously experience the temperature of each day on your skin
♦ More Sex
♦ Try massage
♦ Take a warm bath

Meaningfulness
The more meaning something has for you, the easier it is to remember.
♦ Words are easier to remember than nonsense syllables
♦ Sentences are easier to remember than words in non-grammatical order

Rhymes (and rhythms), can be used to add more meaning to events such as dates:
“ In 1492 Columbus sailed the ocean blue.”
or
“30 days hath September, April, June and November….“

TRY THIS:
At the beginning of a day decide what three things you’d like to do. Make up a rhyme or a jingle when you’re in the shower or getting dressed that include the things you need to do. Sing it a few times before leaving the bedroom. Then try to remember them at lunch and then at dinner.

Use of Acronyms is another way to make information meaningful. For example:
Using ROY G. BIV to remember the colors in the spectrum.

Acronyms are also helpful because they use another tool, “chunking” which reduces the amount of information to be remembered.
ROY G. BIV is 1 chunk.
RED, ORANGE, YELLOW, GREEN, BLUE,
INDIGO, VIOLET is 7 bits of information.

Remember, 7 chunks of information are about as much as the brain can handle without committing the information to long-term memory. Thus, acronyms are efficient ways of remembering more than 7 bits of information.

**TRY THIS:**
Make up an acronym for your shopping list (e.g., cereal, oranges, milk, bread) could be COMB.

**Organization**

Organization is what makes finding a word in a dictionary easy; the words are organized by the alphabet. If you are having difficulty relocating something at home once you've put it away, try developing your own kinds of organizational systems so that finding something is just a matter of routine. If you cannot develop your own method, go to a place that stores large volumes of the item you wish to store, and see what types of organizational strategies they use. For example if you are frequently losing books, go to the library and see what categories they use in their organizational scheme.

Here are some other examples of how to organize by categories:
- To organize CD’s go to a music store
- Use an art store for crafts
- Use a hardware store for nuts, bolts, and tools
- Use a computer store for organizing software manuals

Establish **routine** ways of doing things on a daily basis.
For example, choose to develop the routine so that every time you enter your house, you will:
- pick up the mail
- sort the mail
- throw out the junk
- put your coat in the closet
- put your keys in the key drawer

Only after this routine is accomplished will you respond to a request of a spouse, a ringing phone, a greeting pet, etc.
**TRY THIS:**
Make up two routines, one for returning home and one for leaving home.

<table>
<thead>
<tr>
<th>Returning Home Routine</th>
<th>Leaving Home Routine</th>
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</thead>
<tbody>
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**Associations**
The more associations you make between new information and objects that are familiar to you, the easier it will be to remember the new information. For example: it would probably be easier for you to draw the outline of Italy than Denmark, simply because when learning about Italy someone probably likened it to a boot.

Associations are made through analogies, metaphors, or examples using compare and contrast.

For example: we learned that stalactites come from the ceiling and stalagmites come from the ground.

**TRY THIS:**
Make up an association for a name you frequently cannot remember.

For example: Je**s**sie Smith is a so**c**ial worker  
Jod**i** Smith is a de**n**tist

<table>
<thead>
<tr>
<th>Name of Person</th>
<th>Association</th>
</tr>
</thead>
<tbody>
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<td></td>
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**Visualization**
Use of imagery can improve memory for verbal material. Thus, it is recommended that when trying to remember someone’s name upon being introduced, pay attention to something about his or her image as you repeat his or her name.

For example, if you were introduced to:

Rhoda who has red hair
You would repeat Red-Rhoda to yourself as you look at her red hair

**Muscular Mary**

**TRY THIS:**
Visualize physical features of a group of people you know. If you can’t think of anyone, look at the group on the left. What image would you use to remember each person’s name?

L to R: Al, Sue, Tina, Frank, Cathy

**Sample:**

<table>
<thead>
<tr>
<th>Group Member</th>
<th>Association</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cathy</td>
<td>Curly-haired Cathy</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
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</table>

You can also use visualization to remember a series of tasks or a series of seemingly unrelated objects. To do this, we will combine rhyming with visual imagery to develop a method of remembering objects or tasks in a specific order.

**Now let’s practice Memory Enhancement Skills!**
**Purpose:** to improve memory

**Goal:** to apply and practice strategies for improving attention, storage, and retrieval

**Step 1: Monitor memory.** Monitor your memory difficulties for three days. Note what types of things you tend to forget (i.e., attention/concentration difficulties, where you put things, names, appointments, words during conversation, etc.).

**Step 2: Choose and practice memory enhancement skills.** After noting what types of difficulties you tend to have, choose memory enhancement skills aimed at that problem. Of these skills, choose at least one new skill you would like to practice this week.
**SKILL: Memory Enhancement**

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*(Sample)*

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<thead>
<tr>
<th>Note the type of memory problem</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Strategies you would like to try (check)</th>
<th>Day 4 (check each strategy you tried)</th>
<th>Day 5 (check each strategy you tried)</th>
<th>Day 6 (check each strategy you tried)</th>
<th>Day 7 (check each strategy you tried)</th>
</tr>
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<tbody>
<tr>
<td>Couldn’t remember next-door-neighbor’s name</td>
<td>Couldn’t remember a word while talking with co-worker</td>
<td>Couldn’t find my shoes in the morning</td>
<td>Brain Exercises__ (e.g., crosswords, puzzles, etc.)</td>
<td>Brain Exercises__</td>
<td>Brain Stimulators__</td>
<td>Brain Stimulators__ X</td>
<td>Brain Stimulators__</td>
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<td>Forgot an appointment</td>
<td>Forgot where I put my keys last night</td>
<td>Forgot which cookbook has my favorite recipe for lasagna</td>
<td>Brain Stimulators__ (e.g., new tastes, sensations, etc.)</td>
<td>Brain Stimulators__</td>
<td>Rhymes ____</td>
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<td>Forgot a detail in a work report</td>
<td>Brain Exercises__</td>
<td>Rhymes ____</td>
<td>Acronyms ____</td>
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UMHS 2003, Dr. D. A. Williams and Dr. M. Carey
Let's Summarize...

- Memory problems are very common in people with chronic illness, especially fibromyalgia.

- Good memory is dependent on 1) attention 2) storage and 3) retrieval. If any one of these systems is not working properly, you are likely to have memory difficulties.

- You can boost your memory powers by increasing meaningfulness of information, organization, and associations with older memories or with visual imagery. Brain stimulators can increase attention.
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