

Brain Fog

What It Is and How to Manage It



Sign the [#InclusionPledge](#) to dismantle barriers that prevent access to health equity.





Brain Fog

What It Is and How to Manage It

BRAIN FOG A.K.A. CANCER-RELATED COGNITIVE IMPAIRMENT

BY MICHELLE FERRETTI, LCSW, OSW-C;
TYLER PUDLEINER, MS; AND ADAM L. COHEN, MD, MS

According to the National Cancer Institute, changes in thinking, such as issues with memory, attention, planning, or multitasking, are common for people experiencing cancer. We call these issues brain fog. If you are experiencing brain fog, you are not alone. You are not losing your mind. You are still you, and things can improve.

Despite research showing that brain fog is common, changes in thinking abilities or cognition still come as a surprise for many people managing cancer. Brain fog is often mentioned in a long list of possible side effects in the early days of diagnosis and treatment planning. Understandably, the details of side effects fall from memory when the focus is on getting treatment started and getting through that really challenging time.

What is cognition anyway? It is our ability to learn, remember, process, and use information. Because cognition touches every aspect of life it can feel very personal. Our ability to think and predict how we will think can feel like a large part of our identity. Another





challenge with brain fog is that the research community does not yet have a solid way to define or measure it. The typical tests used as part of a neuropsychological assessment are designed to identify cognitive dysfunction, and typically aren't sensitive enough to catch brain fog. This leads to a challenge. People managing cancer are reporting that "their brain is not working right," and when they go through lengthy, and often expensive tests, the results come back "normal." These results can make people feel invalidated. Research is underway trying to identify more sensitive tests.

Brain fog can appear many ways, but a commonly reported symptom is the feeling as though a word is on the tip of the tongue and simply won't come to mind. Memory challenges are common with brain fog, as is difficulty with multistep tasks such as cooking from a recipe, grocery shopping, or paying

bills. Challenges maintaining attention may appear as being unable to follow directions or conversations or complete multistep tasks. The brain's processing speed (think of your brain like a computer that is loading a website too slowly) can also be affected. This slower processing results in not being able to complete tasks in the time expected or in needing more concentration to get simple things done. Emotional changes are also common, as the part of the brain that helps balance or regulate emotion may be affected. This can compound the strong emotions evoked by changes in one's ability to think. Generally, stronger feelings than "normal" are part of brain fog, but shame, embarrassment, fear, anger, and frustration are commonly reported by those managing brain fog.

These changes can also bring up challenges in social, family, and work

environments, especially if brain fog is not being talked about. Shame may encourage the person managing the changes to hide their experiences. Family members may see changes but are too afraid to bring it up or don't know that it is a common experience for those with cancer. Some family members may cope by teasing or arguing as everyone is trying to adjust to the unknown. Socially, the person managing the brain fog may retreat from meeting with friends for fear of not being able to follow the conversation or fear of not being able to find a word and feeling embarrassed. At work it may take more concentration or time to accomplish a routine task.

As many as three out of every four people experience brain fog while they are in cancer treatment. For the majority, symptoms improve over the year following treatment. For about one in three people, brain fog lasts longer. The



"I was already in a "fog" trying to accept everything that was happening to me, so focusing on one possible side effect when likely side effects like hair loss and mouth sores, etc., were being emphasized, was unlikely. Potential brain fog feels like the least of your worries at that point. Later, you are finding that things aren't necessarily clicking in your head or you forgot what you wanted to say...you chalk it up to fatigue and move on to your next doctor's appointment. For me, it was hard to pinpoint brain fog as a symptom that was occurring because so many other things were happening at the same time that felt more prevalent at that particular time. The care team didn't ask, so I simply forgot."

— Deriece Harrington, Patient Advocate for Brain Fog Study, Triple- Positive Breast Cancer Survivor.



Tips To Manage Brain Fog

Address strong emotions

While emotions may not be the direct source of brain fog, over time our emotions can exacerbate these symptoms.

Sleep

Trouble sleeping can lead to lack of mental clarity, mood changes, and decreased pain tolerance which can exacerbate brain fog.

Get moving

Moderate to intense exercise and movement, especially outside, can decrease stress and support brain function.

Adapt

Learn ways to cope and build emotional resilience.

Talk to your doctor

Sometimes there are other medical issues contributing that can be addressed.





Even people who never receive chemotherapy for their cancer can get brain fog, which is why brain fog may be a more fitting term than “chemo brain.”

good news is that the brain can heal and recover. The hard news is that brain healing is sometimes a very slow process.

Research into the causes of brain fog (or the medical term, cancer-related cognitive impairment) is relatively new, but it appears to be a combination of many factors. Even people who never receive chemotherapy for their cancer can get brain fog, which is why brain fog may be a more fitting term than “chemo brain.” Many aspects of cancer treatment and cancer-related side effects seem to negatively impact cognitive function. It’s possible that just having cancer itself does this as well. There are some aspects of cancer care and personal characteristics that may contribute to brain fog, such as which cancer is diagnosed, what treatment is chosen, age, genetics, or previous medical conditions. These things are outside a patient’s control. There are, however, controllable factors that influence how the brain works, which provides opportunities to intervene to support the brain’s functioning and therefore decrease the negative impact of brain fog. These factors include sleep, long lasting intense emotions, alcohol and substance use, and nutrition.

WHAT YOU CAN DO

- **Address strong emotions.** Emotions themselves do not cause brain fog. However, over time they can further the symptoms of it. Strong challenging emotions are part of life and certainly a life lived with cancer. Strong emotions themselves are not a problem. The challenge comes when these strong emotions interfere with a patient’s ability to live the life they want. If this is the case, meeting with a therapist who is familiar with cancer or other health conditions is one way to get support and learn some strategies to address these challenges.

In addition, moderate to intense exercise, connecting with others socially, and eating well can help manage emotions.

- **Sleep.** Trouble sleeping can lead to lack of mental clarity, mood changes, and decreased pain tolerance, which can exacerbate brain fog. Sleep is hard because it is a let it happen, not a make it happen endeavor. The more sleep is worked at, the more elusive it becomes. The body needs to perceive safety to sleep, so finding ways to relax and support the transition to bedtime are helpful. Even adults can benefit from a relaxing bedtime routine. If you have trouble sleeping, get out of bed, and go back to bed when you feel tired. Another option, as recommended by the Academy of Sleep Medicine, is to

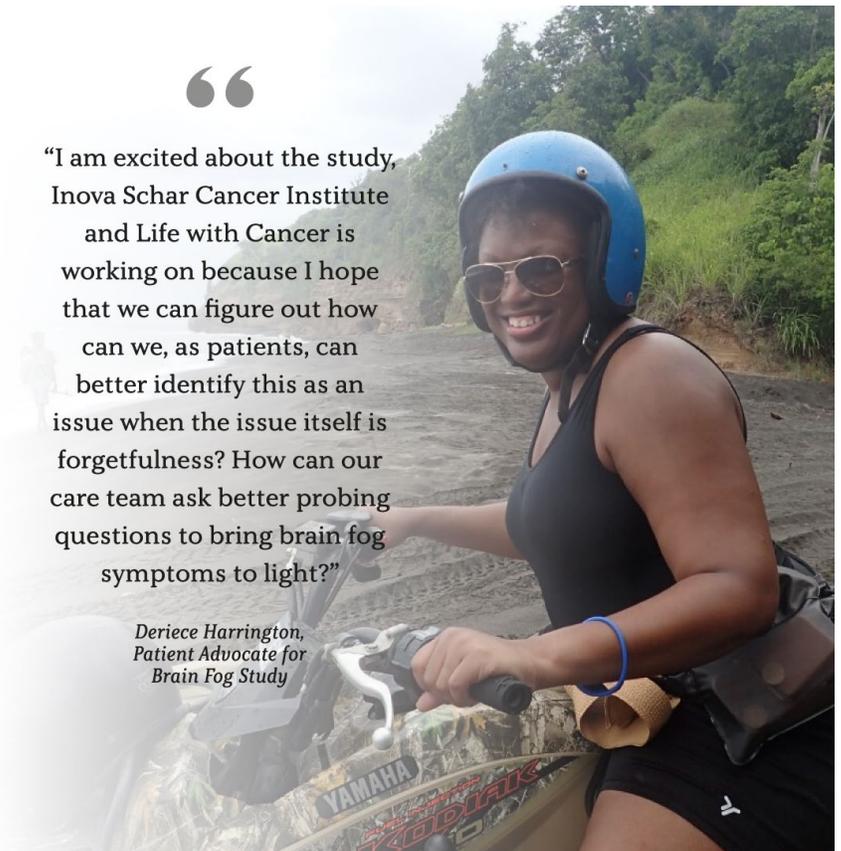
consider Cognitive Behavioral Therapy for Insomnia (CBT-I), which is the best initial treatment for chronic insomnia. CBT-I is even better than sleeping pills. You can search for therapists who have this specialty at <https://cbti.directory/>.

- **Get moving.** Moderate to intense exercise and movement, especially outside, can decrease stress and support brain function. Breaking a sweat, or being able to talk, but not sing, while doing the exercise, lets you know you have reached an adequate intensity level. Exercise can also decrease emotional symptoms and sleep problems. Exercise can be done formally, as part of a program, or informally, such as meeting a friend for a brisk walk or seeing how much of your house you can clean in 10-minute spurts.
- **Learn ways to cope and build emotional resilience.** Unfortunately, some of building resilience is living through a challenging situation and seeing that you can do it. When the



“I am excited about the study, Inova Schar Cancer Institute and Life with Cancer is working on because I hope that we can figure out how can we, as patients, can better identify this as an issue when the issue itself is forgetfulness? How can our care team ask better probing questions to bring brain fog symptoms to light?”

*Deriece Harrington,
Patient Advocate for
Brain Fog Study*





Brain fog is real. Brain fog is common. Brain fog can get better.



Use external aids

Smartphones, computers, tablets, post-it notes, pillboxes, calendars, or centralized noticeboards can keep track of your appointments, finances, medications, lists, and track your diet or exercise. Electronic trackers can help prevent losing things like keys or phones.



Establish a set routine

Routines create order in your life and reduce the amount of information your brain has to keep up with. Schedule appointments on the same day or at the same time when possible, keep important items in the same location, and pair new tasks with automatic tasks, like meals or bedtime.



Engage in challenging activities

Solving crossword puzzles, visiting museums, reading, playing a musical instrument, creating art, or taking a course challenges your brain and helps create new neuron connections.

How to Navigate Brain Fog



Be your own coach!

When performing new or complicated tasks, say the steps out loud to keep you on track. Having a simple script can help you prepare, stay on track, and evaluate your progress with the task. Eventually, your brain may not need the support of the script.



Request workplace accommodations

If you are struggling at work, speak to your HR department and direct supervisor to discuss changes that support you being the best employee possible. Examples include extended time to complete assignments, a redesign of your environment or schedule, or adjusting responsibilities.



Seek support from trusted friends and family members.

Being socially engaged with family and friends can help regulate your nervous system and put your brain in a state where it can be more receptive to learning.



AUTHORS:



MICHELLE FERRETTI, LCSW, OSW-C
INTEGRATIVE PSYCHO-ONCOLOGY PROGRAM, RESEARCH & TRAINING INOVA LIFE WITH CANCER, INOVA SCHAR CANCER INSTITUTE



TYLER PUDLEINER, MS
ONCOLOGY CLINICAL THERAPIST INOVA LIFE WITH CANCER, INOVA SCHAR CANCER INSTITUTE



ADAM L. COHEN, MD, MS
CO-DIRECTOR OF NEURO-ONCOLOGY INOVA SCHAR CANCER INSTITUTE

All the Authors work for Inova, but Life with Cancer is a distinct organization/program within the Inova Schar Cancer Institute.

next challenging situation surfaces, remembering what helped you navigate the previous challenges can be helpful. There are also specific strategies that can help you navigate the tough feelings, sensations, and thoughts that come up during difficult times. With practice, mind-body interventions, including meditation and qigong, and mindfulness-based cancer recovery programs, have been shown to help with brain fog and support emotional resilience.

HOW TO NAVIGATE BRAIN FOG IN YOUR DAILY LIFE

Brain fog creates new challenges in day-to-day living as you attempt to manage roles, responsibilities, and relationships. Remember to have grace for what you are feeling and tell yourself that your cognitive changes are a normal part of having cancer. Following strategies can support success in your daily life despite experiencing cognitive challenges.

- **Use external aids.** Use high-tech and low-tech devices to organize, remind, and track important information instead of relying on your brain. Smart-phones, computers, tablets, post-it notes, pillboxes, calendars, or centralized noticeboards can help you keep track of your appointments, finances, medications, lists, and track your diet or exercise. Electronic trackers can help prevent losing things such as keys or phones.
- **Establish a set routine.** Routines create order in your life and reduce the amount of information your brain has to keep up with. Schedule appointments on the same day or at the same time when possible, keep important items in the same location, and pair new tasks with autonomic tasks, like meals or bedtime.

- **Engage in challenging activities.** Solving crossword puzzles, visiting museums, reading, playing a musical instrument, creating art, or taking a course, challenges your brain and helps create new neuronal connections.
- **Be your own coach!** When performing a new or complicated task, say the steps out loud to keep you on track. Having a simple script can help you prepare, stay on track, and evaluate your progress with the task. Eventually, your brain may not need the support of the script.
- **Request workplace accommodations.** If you are struggling at work, speak to your HR department and direct supervisor to discuss changes that support you being the best employee possible. Examples include extended time to complete assignments, a redesign of your environment or schedule, or adjusting responsibilities.
- **Seek support from trusted friends and family members.** Being socially engaged with family and friends can help regulate your nervous system and put your brain in a state where it can be more receptive to learning.

Brain fog is real. Brain fog is common. Brain fog can get better. The strategies above can help you manage the impact that brain fog has on your life. Research is underway to better understand the causes of brain fog, how to prevent it, and how to treat it. [The Inova Schar Cancer Institute](https://www.inovascarcancer.org) and [Life with Cancer](https://www.lifewithcancer.org) opened a study in the summer of 2022 to test new ways for measuring brain fog that can lead to more individualized treatment approaches.

To learn more about Life with Cancer classes, groups and services to support patients experiencing brain fog, please visit [lifewithcancer.org](https://www.lifewithcancer.org).



tinyurl.com/Inova-Brain-Fog-Study

Click on the QR code to learn more about the research Inova and UT Dallas Center for Brain Health are doing to measure brain fog. With better tests for brain fog, further research into the causes and treatments for brain fog will be more streamlined and effective. With better research, medical providers can make more specific efforts to prevent or treat brain fog.

Tigerlily Foundation educates, empowers, advocates for and supports young women - before, during and after breast cancer.

PROGRAMS FOR YOUNG WOMEN Before, during and after breast cancer diagnosis:

- **BREATHE Tv:** A sacred and inspirational space focused on the lifestyle and emotional experiences related to breast cancer. This lifestyle web series brings together patients, providers and loved ones in a space of purpose and intention, while engaging in authentic and meaningful conversations about cancer.
- **The Health Equity Advocacy Leadership (HEAL) Center of Excellence** Applies a healing lens as we work to create systemic transformation through changes in people and policies at the local, state, and federal level to achieve Health Equity, End Barriers, Improve Access, and Integrate Leadership through Patient Innovation.
- **ANGEL Advocacy:** (Advocate Now to Grow, Empower and Lead) Mobilization of Black women to become knowledgeable advocates about breast cancer and disparities, empowered to create change, while partnering with research and scientific communities to ensure clinical trials, studies, programs and content are relevant to their population, and they are partners working to end health disparities.
- **RACE Alliance:** An alliance developing and evaluating evidence-based initiatives, executing public and healthcare professional education, and conducting research focused on ending barriers for Black women.
- **MY LIFE (Metastatic, Young, Living In Focus, Empowered):** Support resources including My Life is My Legacy Video Series, My Life Matters Magazine, blog posts, guidebook, webinars and more meeting the unique needs of young women living with metastatic breast cancer. #ListenUpMBC
- **Hope Box:** Package curated with educational tools including card deck with educational information, our New Normal Journal navigating survivorship, and soothing gifts to empower breast cancer patients



Tigerlily
Foundation
Beauty. Strength. Transformation.

