

Cancer-related brain fog

People treated for cancer may notice changes in their thinking and cognitive abilities during or after treatment. This is known as cancer-related brain fog. It is sometimes called chemo-brain, cancer-induced brain fog, or some variation of this.

This pamphlet will explain symptoms and possible causes of cancer-related brain fog and describe some ways to help you improve your symptoms.

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Symptoms of cancer-related brain fog

Symptoms can include difficulty with:

- managing attention, focusing on tasks or concentrating
- remembering things
- multi-tasking
- keeping your train of thought while talking
- finding the right words during a conversation
- working with numbers
- taking longer to do tasks than before
- recalling details like name and dates

Although everyone's experience can be different, it is very common to feel frustrated. For some people, symptoms start at the time of diagnosis, but most often people notice symptoms during treatment.

Cognitive functioning (thinking, memory changes) usually improves after treatment is over, but for some people, symptoms may last from months to years. Unfortunately, we do not know why.

Causes of cancer-related brain fog

Symptoms can be caused by many factors:

- diagnosis of cancer
- cancer treatments
- low blood counts
- infection

- stress
- depression and/or anxiety
- hormone changes, such as menopause
- hormone treatments
- anemia
- fatigue
- pain and/or drugs for pain
- lack of proper nutrition
- lack of sleep
- drugs for sleep or anxiety

The precise causes of cancer-related brain fog are poorly understood. Causes may be different for different people and may change over time.

Cancer-related brain fog is not dementia or Alzheimer's Disease. Other medical conditions may mimic cancer-related brain fog. It is important to tell your health care team if you are experiencing symptoms of cancer-related brain fog.

There are currently no medical treatments for cancer-related brain fog. However, symptoms may be managed with changes in behavior and by adopting different strategies.

What can I do to help manage my symptoms?

There are things you can do to help lessen day-to-day difficulties that come with cancer-related brain fog, including the use of memory aids and devices.

- **Timers** – Using cooking timers or appliances with built-in timers and safety features such as shut off (oven timers, stove clocks and small kitchen timers). Consider wearing a watch with an alarm or learning how to use the timer on your cell phone.



- **Use calendars** – Keep a small calendar and pen with you at all times to record dates and contacts. Many cell phones have a calendar function.



- **Track meals, sleep and activities** to help you figure out if there are patterns that affect your attention and memory. Many smartphones have applications to help you manage meals and maintain a regular sleep cycle.



- **Writing things down** – Write out questions for your health care team and record answers right away. Write things down when information is detailed or complicated. Try making “to do” lists and check off items as you complete them.



- **Involve family and friends** – Bring someone with you to appointments. Use them as memory partners and ask them to give you reminders. You may not always need them, but they can help just in case.

- **Make notes** – Use simple reminders, like sticky notes, in obvious places. This will reinforce information and help you remember things.
- **Electronic reminders** – Cell phones, digital watches, e-readers and other electronic devices can be programmed to provide reminders or alerts. If you own a smart phone, you can record conversations and create voice memos. You can also try sending yourself an e-mail, voicemail or text reminder. Text messages and cell phone calendars can be used to help keep track of important information and key events.
- **Take a picture** – Use your smart phone to take a picture of what you need to remember, such as the sign showing where you parked your car.
- **Use GPS, maps or directions** – Navigation systems can help you to reach your destination without any confusion.



Organize your environment and your day

- Keep a calendar or organizer to visualize your day. Make a habit of checking it regularly.
- Create regular routines to make it less likely that you will forget something, such as taking your medicine at the same time every day.
- Organize your space. Make sure you return things to their proper place when you are finished. Keep keys, wallet, cell phone and other frequently needed items in certain places.
- Use a pill organizer/dosette to organize your medications for the week. Pill boxes can be found in your local pharmacy. Some pharmacies can set this up for you.
- Use office organizers for mail and documents, such as folders, envelopes, trays, clips and labels.

How can I sharpen my mental ability?

Use strategies to process information deeply and become an active learner.

- Repetition, Repetition, Repetition! Repeat important things silently or out loud. Do not feel embarrassed to ask people to repeat what they say to you.
- Screen out information that you do not need and concentrate on what you need to know.
- Group different things into a category by finding a similarity between all of them. For example, if you forget your grocery list try to recall items by thinking about all the dairy items you might need, such as cheese, milk and yogurt.
- Summarize your day in a diary before you go to sleep at night. Include details you want to remember. For example, try to write down the plot of a movie you watched that day or a book that you are reading. Write the facts and include details.
- Practice focusing your attention and concentration. Focus on an object and try to recall as many details as you can with your eyes closed.
- Personalize new information and relate it to yourself or relate it to things you already know. This will help you to remember it later.
- Avoid multitasking by focusing and completing one task before starting another, when possible.

Lifestyle can impact thinking abilities. What is good for the heart is good for the brain!

- Physical exercise helps the body, mind and brain. It improves cognitive functioning and helps overall mood.
- Eat healthy foods. A balanced diet of fresh fruits, vegetables, whole grains and protein are necessary in maintaining physical and mental wellbeing. Each person has different dietary needs. To find out more information about your specific dietary needs, speak with your doctor.
- Get enough sleep. Being well rested will make it easier to concentrate, learn and remember. Practice good sleep habits, such as waking up at the same time each day.



Go online: www.helpguide.org/life/sleep_tips.htm for tips.

Talk with your doctor if you are having problems with sleep.

- Socialize. Get involved in group activities that you may have been a part of before your cancer treatment, or try something new like joining a support group or volunteering.
- Challenge yourself. Activities that make you think can improve concentration. This may include card games, puzzles, reading or writing letters. Try to learn a new skill or improve upon one you already know.



How can I reduce my mental fatigue?

- Mental fatigue is a feeling of being mentally tired, and causes trouble in paying attention or maintaining focus on a task.
- It can occur during different points of the cancer process.
- Research has found that certain activities may help to reduce mental fatigue.
- Restorative experiences are those that can rest your mind and bring back mental energy.
- Do activities that you find pleasing like:
 - Take a walk or sit outside.
 - Practice meditation or yoga.
 - Listen to music or sounds of nature, such as rustling of leaves or bird calls.
 - Watch wildlife or other nature scenes.



Restorative activities should:

- Be enjoyable and attention grabbing.
- Take place in a peaceful or natural setting, or somewhere that allows the mind to rest but not sleep.
- Involve a change from everyday activities and take your mind off of other concerns.

There are other ways to reduce mental fatigue:

- Stress reduction – Stress causes mental fatigue and engaging in stress reducing activities can boost mental energy (see activities listed above).
- Noise reduction – Noisy distractions can hinder concentration and make it difficult to focus. Try to minimize background noise when possible, such as turning off the television when reading.

Useful tips:

- Do activities that you enjoy.
- Stay interested in the world around you. It is easier to remember things if you are interested in them.
- Learn to laugh. Cancer-related brain fog is not funny, but being hard on yourself for forgetting is not necessary. Acknowledge your forgetfulness and carry on with your day.
- Seek help from a health professional if you have problems with depression or anxiety.
- Feeling sad or anxious can worsen memory problems.

Talk with your doctor or nurse

Let your doctor or nurse know if you are concerned about changes in your cognitive function (thinking and memory changes).

- They should be able to test for things that could be contributing to cognitive changes.
- They can also refer you to a specialist such as a dietitian, a counsellor for relaxation support, or an education or support group that discusses cancer-related brain fog.

Your doctor is likely to ask you a number of questions:

- Being ready to answer them may allow more time later to cover points you want to address.
- It might be helpful to write down any symptoms, when you notice them, and for how long the symptom(s) lasted.

You may also want to ask your doctor if there are any tests that can help rule out other causes of cognitive decline.

- These might include blood tests, brain imaging tests or sleep study tests.
- Your doctor can help you decide if any of these tests would make sense to do in your particular situation.

Additional resources

Website

- The Canadian Cancer Society www.cancer.ca
- The American Cancer Society www.cancer.org
- CancerCare www.cancercare.org/tagged/chemobrain
- Caring Today - A resource for family caregivers.
www.caringtoday.com
- LiveStrong
www.livestrong.org
- Leukemia and Lymphoma Society of Canada www.llscanada.org
- OncoLink
www.oncolink.org
- The Mayo Clinic
www.mayoclinic.com

Books

- Your Brain After Chemo: A Practical Guide to Lifting the Fog and Getting Back Your Focus, Dan Silverman, 2010.
- ChemoBrain: How Cancer Therapies Can Affect Your Mind, Ellen Clegg, 2009.

