Chemo Brain

This information is about adults with cancer. To learn more about the effects of cancer treatments in children (including brain problems), see [Children Diagnosed With Cancer: Late Effects of Cancer Treatment](https://www.cancer.org/).  

For years people with cancer have worried about, joked about, and been frustrated by the mental cloudiness they sometimes notice before, during, and after cancer treatment. Even though its exact cause isn’t known, and it can happen at any time when you have cancer, this mental fog is commonly called chemo brain.

The sometimes vague yet distressing mental changes cancer patients notice are real, not imagined. They might last a short time, or they might go on for years. These changes can make people unable to go back to their school, work, or social activities, or make it so that it takes a lot of mental effort to do so. Chemo brain affects everyday life for many people with cancer.

What is chemo brain?

Here are just a few examples of what patients call chemo brain:

- Forgetting things that they usually have no trouble recalling (memory lapses)
- Trouble concentrating (they can’t focus on what they’re doing, have a short attention span, may “space out”)
- Trouble remembering details like names, dates, and sometimes larger events
- Trouble multi-tasking, like answering the phone while cooking, without losing track of one task (they’re less able to do more than one thing at a time)
- Taking longer to finish things (disorganized, slower thinking and processing)
- Trouble remembering common words (unable to find the right words to finish a sentence)
Doctors and researchers call chemo brain many things, such as cancer treatment-related cognitive impairment, cancer-therapy associated cognitive change, or post-chemotherapy cognitive impairment. Most define it as a decrease in mental “sharpness” — being unable to remember certain things and having trouble finishing tasks or learning new skills.

How long chemo brain lasts is a major factor in how much it affects a person’s life. When it starts, how long it lasts, and how much trouble it causes can vary a lot. For most people, brain effects happen quickly and only last a short time. Others have long-term mental changes. Usually the changes that patients notice are very subtle, and others around them might not even notice any changes at all. Still, the people who are having problems are well aware of the differences in their thinking. Many people don’t tell their cancer care team about this problem until it affects their everyday life.

What causes chemo brain?

Beyond the chemo brain symptoms that start during and just after treatment, there are some cases where brain symptoms start and even get worse after treatment is over. Many cancer treatments, including certain kinds of chemo and radiation, can cause short-term, long-term, and delayed problems.

Studies suggest that there may be more than one cause of chemo brain, especially for the short-term symptoms. Some people with cancer have very real brain problems even though they haven’t had chemo. Still others notice problems when getting hormone treatments, such as those used to treat breast or prostate cancers. For some, problems start after surgery. Along with chemo, many different things can worsen brain function.

For instance, brain function problems could be caused or worsened by any one or any combination of these factors:

- The cancer itself
- Other drugs used as part of treatment, such as steroids, anti-nausea, or pain medicines
- Surgery and the drugs used during surgery (anesthesia)
- Low blood counts
- Sleep problems
- Infection
- Tiredness (fatigue)
Hormone changes or hormone treatments
Other illnesses, such as diabetes or high blood pressure
Nutritional deficiencies
Patient age
Depression
Stress, anxiety, worry, or other emotional pressure

Most of these cause short-term problems, and get better as the underlying problem is treated or goes away. A few, such as depression, can cause long-lasting brain problems unless the cause is treated.

What can you do to manage chemo brain?

Day-to-day coping

Experts have been studying memory for a long time. There are many things that you can do to help you sharpen your mental abilities and manage chemo brain. Some examples are:

- Use a detailed daily planner or your smart phone. Keeping everything in one place makes it easier to find the reminders you may need. You might want to keep track of appointments and schedules, “to do” lists, important dates, websites, phone numbers and addresses, meeting notes, and even movies you’d like to see or books you’d like to read.
- Exercise your brain. Take a class, do word puzzles, or learn a new language.
- Get enough rest and sleep.
- Move your body. Regular physical activity is not only good for your body, but also improves your mood, makes you feel more alert, and decreases tiredness (fatigue).
- Eat veggies. Studies have shown that eating more vegetables is linked to keeping brain power as people age.
- Set up and follow routines. Try to keep the same daily schedule.
- Pick a certain place for commonly lost objects (like keys) and put them there each time.
- Don’t try to multi-task. Focus on one thing at a time.
- Ask for help when you need it. Friends and loved ones can help with daily tasks to cut down on distractions and help you save mental energy.
- Track your memory problems. Keep a diary of when you notice problems and what’s going on at the time. Medicines taken, time of day, and the situation you’re
in might help you figure out what affects your memory. Keeping track of when the problems are most noticeable can also help you prepare. You’ll know to avoid planning important conversations or appointments during those times. This record will also be useful when you talk with your doctor about these problems.

- **Try not to focus on how much these symptoms bother you.** Accepting the problem will help you deal with it. As many patients have noted, being able to laugh about things you can’t control can help you cope. And remember, you probably notice your problems much more than others do. Sometimes we all have to laugh about forgetting to take the grocery list with us to the store.

**Tell others**

Another thing you can do to better manage chemo brain is tell family, friends, and your cancer care team about it. Let them know what you’re going through. You may feel relieved once you tell people about the problems you sometimes have with your memory or thinking.

You’re not stupid or crazy – chemo brain is a side effect you can learn to manage. Even though this isn’t a change that’s easy to see, like hair loss or skin changes, your family and friends might have noticed some things and may even have some helpful suggestions. For instance, your partner might notice that when you’re rushed, you have more trouble finding things.

Tell your friends and family members what they can do to help. Their support and understanding can help you relax and make it easier for you to focus and process information.

**Talk with your doctor or cancer care team**

If brain problems cause trouble at work, talk with your doctor to try and pinpoint what’s causing your brain fog and what can be done about it. This is especially important for people with chemo brain that lasts more than a year and keeps causing trouble in their daily lives.

It helps a lot if you have a diary or log of the situations you have trouble with. It also helps to know some of the things that make the problem worse or better. For instance, are they worse in the morning or evening? Do you have more trouble when you are hungry or tired? Does it help to nap, walk, or have a snack? Your doctor will want to know when the problems started and how they affect your daily life.
• Write down questions about the problems you have. Take them to your appointment along with your memory tracking log to talk over with your doctor. Ask what may be causing the problems, and find out if there’s anything the doctor can offer to help you.
• Bring a list of all the medicines you take, including herbs, vitamins, supplements, and those you take on an “as needed” basis.
• Take a friend or family member with you to help you keep track of what’s said during the visit. They can also describe the changes they see if the doctor wants a different viewpoint of how your brain problems are affecting you.
• If your memory and thinking problems keep causing trouble in your daily life, ask your doctor if you might be helped by a specialist such as a neuropsychologist or a speech language pathologist. These professionals can test you and may recommend ways to help you better handle the problems. (You may hear this called cognitive rehabilitation.)

You may need to visit a larger hospital or cancer care center to find experts on testing brain function, including chemo brain. Ask if you can get a referral to one of these specialists who can help you learn the scope of your problem and work with you on ways to manage it. You’ll want to find out what your insurance will cover before you start.

Questions to ask your doctor

These are just some of the questions you may want to ask your doctor about chemo brain.

• Are there other medical problems that could be causing my symptoms?
• Is there treatment for my symptoms?
• What can I do to manage chemo brain?
• Is there anything I can do to help prevent chemo brain?
• Should I see a specialist? Can you recommend one?

Can chemo brain be prevented?

So far, there is no known way to prevent chemo brain. For some people, treating their cancer will mean trouble with thinking, memory, planning, and finding the right words.

The causes of brain problems related to cancer and its treatment are still being studied.
Chemo brain seems to happen more often with high doses of chemo, and is more likely if the brain is also treated with radiation. But because chemo brain is usually mild and most often goes away in time, chemo that’s proven to work against the cancer should not be changed to try to prevent this side effect.

**What’s being done about chemo brain?**

Studies are being done to learn more about chemo brain. Some studies are looking to find out which chemo drugs and other treatments are more closely linked to chemo brain. Researchers are also looking at possible ways to prevent brain problems. For instance, there may be certain drugs that can help protect the brain during cancer treatment.

Researchers are studying other aspects of cancer treatment that may lead to long-term mental changes, too. For example, they are looking at the types and doses of chemo the patients had, anemia, other cancer-related symptoms (like tiredness), and genetic differences among people to see if these factors are linked to a higher risk of brain problems.

Doctors are also studying ways to help survivors who are still having trouble thinking.

**Hyperlinks**


**References**


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