Cognitive Dysfunction ("Chemo Brain")

What is Chemo Brain?

Many cancer survivors who have received or are currently undergoing chemotherapy report having changes to their thinking (cognitive changes or cognitive deficits), often called “chemo-brain.” These changes include having a hard time with:

- Short-term memory.
- Multi-tasking.
- New learning.
- Reading comprehension (understanding what you read).
- Working with numbers.
- Decrease in concentration.

These effects can lead to being unable to do your job, having a hard time managing family/home matters, and even social withdrawal for fear of embarrassment. These cognitive changes can also impact our caregivers, family, and friends. Each person's experience is unique, making it hard to predict what cognitive changes you may have, and whether or not they will continue after treatment.

In recent years, many studies have shown some level of decline in brain function in cancer survivors after treatment for cancer, although some studies have not found any change. The effect can be a worsening of a pre-existing cognitive issue or a new change in function. Some study participants worsen during therapy and gradually improve after, while others find their impairments are long-lasting, if not permanent.

Rule Out Other Causes

Cognitive changes can be caused by many other, treatable conditions. These may be:

- Urinary tract infections (UTI).
- Hypothyroidism (changes to how your thyroid works).
- Anxiety.
- Depression.
- Medication side effects like allergies or adverse reactions.

It is important to be sure no other issues are causing your cognitive changes. Don't just assume your cognitive concerns are due to chemo brain. The most important thing to do if you are having cognitive changes is to talk to your healthcare provider about your symptoms and rule out other causes first.

How is chemo brain treated?

Medications

At this time there are no medications used specifically to treat chemo brain. However, medications used to treat other problems of the brain may help. These medications may stimulate (rev up) the brain and lead to improved concentration, memory, attention, and decreased fatigue. Medications that might help are those used to treat attention deficit hyperactivity disorder (ADHD), Alzheimer's disease, dementia, depression, and narcolepsy.

Caffeine is an over-the-counter stimulant that improves cognitive function for millions of people every day. It is a relatively safe way to stimulate brain function.
There are also herbal and natural supplements that claim to enhance or improve memory. However, supplements can also interfere with some cancer treatments and other medications. Talk with your provider before taking any supplements.

"Brain Rehab"
Cognitive rehabilitation (rehab) programs are programs that use exercise, memory tasks, and puzzles to "rehabilitate" your mind. These programs are often used for people with brain injuries, but therapists have made programs for cancer survivors. These programs focus on re-training the brain through learning new ways to complete tasks.

Computer-based cognitive rehabilitation therapy is also being studied in cancer patients. This can be helpful to cancer patients as it can be done at your own pace and at home. There are currently studies looking at the effectiveness of these programs in cancer survivors.

Puzzles using numbers, like Sudoku, may help "exercise" your brain. It is likely that any brain stimulation may be helpful and certainly cannot hurt, whether through a game, taking a course at a local school, or joining a book discussion club.

Fatigue can make cognitive problems worse. Avoid fatigue by getting enough sleep, adding exercise into your life, and by eating a healthy diet.

Tips for Living Life with Chemo Brain
There is no "quick fix" for chemo brain. It is important to be creative and do things in your daily life that can help fight the symptoms. Some tips to help your daily life are:

- Keep a detailed calendar or planner. Use your smartphone to set alarms to remind you of important appointments.
- The all-too-important sticky note – just be sure to put them in places you will see them!
- In the evening, start a list for tomorrow- what needs to get done and who do I need to call? Create a notebook for this so you can flip ahead and add something to next week’s list when it comes to mind.
- Keep a pad in the kitchen for a shopping list. When you see something is running low, add it right away.
- Put a basket near the front door for those items you need every day- cell phone, keys, wallet, etc.
- Avoid distractions when possible. Have important conversations in quiet places.
- Slow down. Our hectic, fast-paced lifestyles can add to confusion and frustration. If you find yourself having trouble focusing, take a step back for a moment.
- Trouble remembering that something is cooking? Get into the habit of setting a timer. This is also a great use for your smartphone or smart home devices like Alexa or Google Home.
- GPS/navigation systems/navigation apps can help you get places.
- Be open with friends and family about any problems you might be having.
- Most importantly, know your limitations. Don’t take on tasks that require too much multi-tasking. Ask for help. Try to keep a positive outlook and find some humor in your “chemo-brain moments.”

Resources for More Information

American Cancer Society: Chemo-Brain

Cancer.net: Attention, Thinking or Memory Problems

Coping with Chemobrain: Keeping your Memory Sharp

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