

Understanding Changes in Thinking and Memory

A guide for people affected by cancer

This fact sheet has been prepared to help you understand more about the changes in thinking and memory that some people experience after a cancer diagnosis or treatment. It provides suggestions about how to manage your day-to-day tasks and improve your thinking and memory.

Cancer-related cognitive impairment

Many people diagnosed with cancer notice changes in the way they think and remember information. This is known as cancer-related cognitive impairment, but people may also call it “cancer fog”, “chemo brain” or “brain fog”. However, people who have never had chemotherapy can also experience changes.

Many changes in how the brain works (cognitive function) are a normal part of getting older. Cancer-related cognitive impairment is different, and it can happen quite suddenly. It is important to seek help early if this happens.

Changes you may notice

For some people, changes in thinking and memory may be small or subtle. For other people, the changes are more obvious. Even small changes can be very challenging. You may find it hard to:

- think clearly
- focus or pay attention
- remember names, dates or words
- do more than one thing at a time (multitask)
- follow what is being said
- process information, including following directions, problem-solving or learning new skills.

You may also:

- feel mental “fogginess”
- feel disorganised
- feel unable to keep up with conversations
- feel very tired or exhausted
- have trouble starting things or finding the motivation you used to have.

Problems with thinking and memory can happen at any stage. You may notice changes before treatment starts, during treatment or after treatment has finished.

“What used to take me 5 minutes, now takes me 20 or 30. I’ve also found it difficult to go back to my old job. It’s frustrating. I’ve had to adopt ways of getting around it.” NAVEENA

Why do these changes happen?

The exact causes of thinking and memory changes after a cancer diagnosis are unknown. For an individual, the changes might happen because of:

- cancer treatments
- side effects, such as trouble sleeping, fatigue, pain, low blood counts and hormone changes
- medicines for surgery or to manage treatment side effects, including anaesthetics, steroids, pain medicines and anti-nausea drugs
- your emotions, such as feeling overwhelmed, depressed or anxious
- inflammation caused by the cancer
- in some cases, a brain tumour, which can affect how the brain works.

Who is affected?

Thinking and memory changes are common for people who have been diagnosed with cancer. According to one study, it can affect up to 3 in 4 people during treatment, about 1 in 3 people before treatment and 1 in 3 after treatment.

How long does it last?

Thinking and memory problems usually get better with time. Most people notice an improvement after cancer treatment has finished. For some people it takes longer, and some people continue to notice problems long term.

Generally, the changes in thinking and memory are subtle and other people may not notice. Speak to your doctor when you notice changes, or if you are worried.

Your feelings about the changes

It can be challenging to experience changes in thinking or memory, even if the changes are subtle. You may not feel like yourself, which can affect your relationships with family, friends and colleagues.

Changes in your thinking or memory can have a big impact on managing at home, working or studying, or during social activities. This may make you feel upset, scared or frustrated. You might feel you have to put in extra mental effort and energy.

It may be reassuring to know that many people experience changes, and for most people it gets better with time. Even if the changes are long term, help is available (see *Managing changes* below).

Try to be gentle with yourself and allow time to recover. You may find it helpful to speak about how you are feeling with a family member, friend or professional counsellor. You can call 13 11 20 to talk to one of our experienced health professionals about your concerns. They can also connect you with someone who has had a similar cancer experience.

“Be kind to yourself and utilise whatever resources you can. Don’t be ashamed of asking for help because it’s not your fault.” NAVEENA

Managing changes

There are things you can do to cope with cognitive problems, improve your wellbeing and manage daily life.

Keep a diary of the differences you notice, including the time of day and what you were doing. This can make it easier to plan your day and may be useful when you talk with your health care team.

See the next page for a list of practical ways you can adjust your daily routine, involve other people, maintain a healthy lifestyle, and improve your thinking and memory.

Cognitive rehabilitation and brain training

If thinking and memory problems continue to affect your daily life, ask your health care team if cognitive testing and cognitive rehabilitation could be right for you.

Cognitive rehabilitation is a type of brain training that can help with all levels of thinking and memory changes. During cognitive rehabilitation, you will learn specially planned brain exercises to help with symptoms and management. This can be done by a neuropsychologist (specialist psychologist) or a specially trained occupational therapist.

Most of the time you need to pay a private fee for cognitive rehabilitation.

An occupational therapist who specialises in memory and concentration problems may also be able to help with strategies for day-to-day life. Ask your health care team for more information or search online for occupational therapy services in your area.

Online options

Online brain training programs may also be helpful. These include brain exercises that you practise regularly for a short time. Most programs offer a free trial, but to continue using the programs you usually need to pay. Search online or ask your health care team to recommend a program.

Ways to manage change

The following suggestions may help you with managing changes in thinking and memory.

Adjust your daily routine



- Write things down: keep a to-do list or take notes.
- Use a diary or smartphone features, such as reminders, alarms and lists.
- Set times each day to check your to-do lists and reminders.
- Focus on one thing at a time (try not to multitask).
- Avoid distractions. For example, let your phone go to voicemail and listen when you're ready.
- Pick a specific place to put objects such as your keys, rings or phone, so they are easier to find.
- Ask your pharmacist about a medicine organiser or blister pack (e.g. Webster-pak).
- Pace yourself and include rest breaks to recharge after mentally demanding tasks.
- Do focused tasks when you feel fresher.

Involve other people



- If you feel comfortable, tell family, friends and colleagues what is going on – this can prevent misunderstandings.
- Speak to your employer about how they can support you to come back to work, or changes they can make to help.
- Take a support person to appointments or treatment. They can help to remember what is said, or speak for you if you want them to.
- Talk to your health care team about how you are feeling. They can assess if you have other concerns such as depression.
- Health professionals can help you manage your symptoms or daily challenges. Talk to your treatment team or your GP about referral to a neuropsychologist, clinical psychologist or occupational therapist. You may be able to access support through the hospital system or get a Medicare rebate.

Maintain a healthy lifestyle



- Eat healthy, nutritious foods, including lots of fruits and vegetables.
- Aim to get at least 7-8 hours of sleep each night and rest when tired.
- Do some physical exercise or stretching. A mix of aerobic and strength training may help improve your symptoms.
- Consider working with a physiotherapist or exercise physiologist to make exercise part of your lifestyle.
- Minimise stressful activities as much as possible.
- Try meditation or relaxation to reduce stress and worries. Cancer Council's *Finding Calm During Cancer* podcast offers a series of meditation and relaxation exercises.

Improve your thinking and memory



- During conversation, focus carefully and repeat what has been said to you out loud.
- Add meaning to information you need to remember, e.g. picture someone called Robyn with a robin bird above their head.
- Break down new information into smaller chunks, e.g. remember 2507000 by thinking of 2507 as Christmas in July, then 000 as the emergency phone number.
- Keep your mind active with crosswords, puzzles or joining in with TV game shows.
- Learning a new skill, language or musical instrument can keep your brain active, help it form new connections and strengthen existing ones.
- Try doing something creative, like art or crafts.



Cancer Council's podcast series *The Thing About Cancer* features interviews with experts on a range of topics. In the "Brain Fog and Cancer" episode, host Julie McCrossin talks with Prof Janette Vardy, a medical oncologist who has been studying this issue. Visit cancercouncil.com.au/podcasts.

“I just felt edgy all the time. And I thought, ‘Oh is that depression? Is it stress?’ But I think it was just that the required concentration to do what would be very normal tasks was exhausting because you used so much more energy to do the same task.” ANNE

Question checklist

This checklist may be helpful when thinking about questions to ask your doctor.

- I have been having trouble with my thinking and memory. How can I tell if it's related to the cancer or cancer treatment?
- How long are the changes in thinking and memory likely to last?
- What are some simple ways to improve my thinking and memory?
- I'm finding the changes in my thinking and memory hard to cope with. Who can I talk to about how I am feeling?
- Can you refer me to a neuropsychologist, clinical psychologist or occupational therapist who understands cancer-related cognitive impairment? Would I be able to get a Medicare rebate to help cover the cost?
- Would cognitive testing and cognitive rehabilitation be an option for me?
- Are there any online braining training programs I could try?
- Are there any complementary therapies that might help me?

Where to get help and information

Call Cancer Council 13 11 20 for more information about adjusting to changes after cancer treatment. Our experienced health professionals can listen to your concerns, put you in touch with services and send you our free booklets. You can also visit your local Cancer Council website.

ACT	actcancer.org
NSW	cancercouncil.com.au
NT	cancer.org.au/nt
QLD	cancerqld.org.au
SA	cancersa.org.au
TAS	cancer.org.au/tas
VIC	cancervic.org.au
WA	cancerwa.asn.au
Australia	cancer.org.au

Other useful websites

You can find many useful resources online, but not all websites are reliable. These websites are good sources of support and information.

American Cancer Society	cancer.org
Cancer Research UK	cancerresearchuk.org
Chemocare (US)	chemocare.com
eviQ Cancer Treatments Online	eviq.org.au
Macmillan Cancer Support (UK)	macmillan.org.uk

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Note to reader

Always consult your doctor about matters that affect your health. This fact sheet is intended as a general introduction and is not a substitute for professional medical, legal or financial advice. Information about cancer is constantly being updated and revised by the medical and research communities. While all care is taken to ensure accuracy at the time of publication, Cancer Council Australia and its members exclude all liability for any injury, loss or damage incurred by use of or reliance on the information provided in this fact sheet.

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Cancer Council acknowledges Traditional Custodians of Country throughout Australia and recognises the continuing connection to lands, waters and communities. We pay our respects to Aboriginal and Torres Strait Islander cultures and to Elders past, present and emerging.

