Cancer-Related Changes in Thinking

Some people with cancer may have changes in their ability to think clearly. These changes in thinking are usually mild and often improve, or go away, within 1 year after cancer treatment ends. The reason for these changes may depend on the type and location of your cancer, the treatment you receive and other risk factors. You may have heard these changes called “cancer-related cognitive dysfunction,” “chemo brain” or “chemo fog”.

Symptoms of Changes in Thinking

Cancer-related changes in thinking can be different for each person. These changes may start when you are first diagnosed with cancer, but it is more common to have them after cancer treatments have started. If you have changes in thinking, you may find it hard to:

- Think clearly or as quickly as you did before your cancer
- Remember things, such as names, dates and events
- Keep your train of thought in a conversation
- Stay focused or concentrate
- Find the right word
- Learn new things
- Manage daily activities
- Do more than one thing at a time (multi-task)
- Come up with solutions to a problem
Causes of Changes in Thinking

For a long time, it was thought that these types of changes in thinking were only due to chemotherapy treatments. However, research has now found other possible cancer-related causes. These include:

- Stress, depression or anxiety due to emotions that may happen with a cancer diagnosis
- Medicines used to treat cancer-related side effects, such as steroids or medicines for pain, nausea or sleep
- Surgery or anesthesia medicine given during surgery or other medical procedures
- Radiation therapy to your head or brain

Risk Factors for Changes in Thinking

Certain risk factors may increase your chance of cancer-related thinking changes. These risk factors include:

- Older age
- Problems with memory, thinking, anxiety or depression before your cancer diagnosis
- Problems with sleep
- Pain
- Dehydration or poor nutrition
- Substance abuse, including caffeine, alcohol or illegal drugs

Treatment for Changes in Thinking

It is important to tell your doctor if you notice any changes in your thinking. You may find it helpful to keep a list of your symptoms and concerns to share with your doctor. Your doctor will review your medical history and talk with you about treatment options. It is important to tell your doctor about all the medicines you take, including medicines ordered by any of your doctors, herbs, vitamins and over-the-counter medicines.
Based on the specific changes with your thinking, your doctor may order medicine to help improve your ability to focus or concentrate. You may also be referred to other special health care professionals (such as a neuropsychologist or occupational therapist) to help you manage thinking changes. They can offer helpful tips and aids for you to use. A treatment, called **cognitive rehabilitation**, may be suggested to teach you ways to handle and cope with your thinking changes.

### Helpful Tips to Manage Changes in Thinking

Here are some tips to help you manage any changes you may have in your thinking:

#### Keep a healthy lifestyle:
- Stay physically active.
- Get enough sleep.
- Eat healthy foods and drink plenty of water.
- Keep a medicine schedule and pill box to make sure you take your medicines as ordered by your doctor.
- Limit your use of alcohol and do not use tobacco products or illegal drugs.
- Limit your use of caffeine, especially before bedtime.

#### Create ways to help you remember things:
- Use a calendar to help you remember your planned activities, appointments and important dates.
- Use a notepad to write down your thoughts, ideas or a list of things you want to remember later.
- Divide large tasks into smaller ones.
- Keep a regular routine for your daily activities.
- Keep important items, such as your car keys, in the same place, so they are easier to find.
Prepare the things you need for the next day by laying them out before you go to bed.

Let a family member or friend help, when needed.

- **Find ways to stay focused on a task:**
  - Do just one thing at a time with as few distractions or interruptions as possible. Work in a quiet area, if possible. Turn off the TV or radio when you need to focus.
  - Keep a “to do” list for things that need to be done and mark off each task when it is completed.
  - Set goals for the day that are realistic - be mindful of what you are able to do.