



# HCSP FACT SHEET

• HCV WELLNESS •

## Brain Fog

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### Foreword

“Where are my keys?” “What did I do with that book?” “What time was I supposed to meet John?” Almost everyone – including people living with hepatitis C – forgets where they place things or has missed a meeting because they forgot the day or time of the appointment. Brain fog is loosely defined as a constellation of symptoms, including difficulty concentrating, memory loss, trouble with retaining information, and a whole range of other cognitive problems. Along with fatigue, brain fog is one of the most common symptoms people with hepatitis C experience.

The exact cause of brain fog in people with hepatitis C is poorly understood but there have been some recent studies that may explain the higher incidence of brain fog in the hepatitis C population. One study found that since the hepatitis C virus crosses the blood-brain barrier there is some low level inflammation in the brain that would affect cognitive function. A study in 2010 found that the hepatitis C virus destroys brain neurons and inhibits the removal of debris from the brain. Other experts speculate that the cause of brain fog may be due to the fact that the immune system is overstimulated trying to fight the hepatitis C virus. This process involves the immune system’s activation of the body’s innate defense system that produces killer cells, and a certain protein called interferon. The result of the natural production of interferon is that the body goes into an attack mode and this process produces side effects such as fatigue, muscle and joint pain as well as general cognitive dysfunction – this is the same process that occurs when someone catches the common cold or the flu.

Regardless of the reason, brain fog can affect almost every area of life. On a personal note, the symptoms of fatigue and brain fog are the symptoms of hepatitis C that eventually led me to seek medical care that resulted in a diagnosis of hepatitis C.

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## Brain Fog

The eleven steps listed below are a variety of measures both scientifically proven and from personal experience that have helped me manage brain fog. I have found that combining various strategies has greatly improved my memory and reduced the stress of having hepatitis C-related brain fog.

**1. Get a Check Up:** Brain fog can be caused by many conditions, such as depression, acute and chronic pain, diabetes, thyroid disease and many other medical conditions. Talk with a medical provider to make sure that there is no other mental or physical condition that is causing the brain fog.

**2. Physical Exercise:** One of the best strategies to combat brain fog is exercise. Exercise has been proven to increase blood flow in the brain and aid in the replication of brain cells. Exercise will also help to reduce the build-up of plaque in the blood vessels including those in the brain. There are many types of exercise to choose from, such as walking, jogging, swimming, etc.; but always talk with a medical provider before beginning any new vigorous exercise program.

**3. Exercise the Brain:** Do mental activities that stimulate the brain, such as crossword puzzles, reading a book, putting together a jigsaw puzzle, playing memory games, solving mathematical problems, playing chess or any other activity that challenges the brain.

**4. Diet:** It is not surprising that a healthy diet affects every area of the body, including the brain. A poor diet can lead to obesity, diabetes, increased levels of 'bad' cholesterol, as well as many other conditions that can affect the health of the body. A poor diet can lead to build up

of plaque in the veins, and poor circulation. Recently, some studies have suggested that uncontrolled diabetes may contribute to Alzheimer's. More studies are needed to confirm the findings, but the link between poor diet and the development of cognitive dysfunction appears to be very solid.

**5. Sleep:** Insomnia can lead to many problems, including brain fog. It is recommended that people try to get between 8 and 10 hours of sleep every night.

**6. Visualize:** This is a very good strategy that has worked well for me. For instance, when you park your car visualize where you parked it as well as the nearest cross streets. Another example would be that when you put an item in a certain place, visualize that place.

**7. Permanent Location:** Find a permanent location for things like keys, loose change, or any other item so that they can always be located. I try to put my keys in the same location in the kitchen so that if I am running out of the door I know exactly where to look without wasting time and becoming frustrated trying to find them.

**8. Daily Planner:** Write down every appointment in a spiral bound notebook, daily planner or on a computer and use it to refer to when making appointments. Every morning after my coffee I check the daily planner so that I am aware of and can plan my daily activities accordingly. Remember not to overbook and also try to write in time between appointments to rest.

**9. Stress Reduction:** Stress is known to lower immune function and affect every area of the body, including the brain. Find activities that

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help to reduce the stress, like walking, meditating, reading a good book or listening to music. Build these types of activities into your daily routine.

**10. Repeat:** If you want to remember something repeat it over and over – even out loud if you can. This will help to change a short-term memory into a long-term memory.

**11. Laugh:** Having brain fog is not funny and it can get the better of you and ruin your life. If you miss an appointment – apologize and move on. There is no point in self-recriminations especially if you are making every effort to cut down on mistakes. You will find that life is much easier and enjoyable if you can laugh at your very human mistakes.

### *Related publications:*

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| <ul style="list-style-type: none"><li>• <b>CDC Physical Activity for Everyone:</b><br/><a href="http://www.cdc.gov/nccdphp/dnpa/physical/everyone/recommendations/index.htm">www.cdc.gov/nccdphp/dnpa/physical/everyone/recommendations/index.htm</a></li><li>• <b>Mayo Clinic</b><br/><a href="http://www.mayoclinic.com">www.mayoclinic.com</a></li></ul> | <ul style="list-style-type: none"><li>• <b>Centers for Disease Control and Prevention</b><br/><a href="http://www.cdc.gov">www.cdc.gov</a></li><li>• <b>The Original Memory Gym:</b><br/><a href="http://www.memorise.org">www.memorise.org</a></li></ul> |
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