

Confusion and Memory Loss Linked to 9/11 Exposure

The collapse of the World Trade Center (WTC) on September 11, 2001, caused mental health conditions, such as post-traumatic stress disorder (PTSD), depression, and anxiety, among survivors, including rescue workers, nearby residents, and passersby. A study by the WTC Health Registry showed these mental health conditions may be linked to **confusion** and **memory loss**.

What Are Confusion and Memory Loss?



Confusion and **memory loss** can present as frequent or unusual forgetfulness (forgetfulness beyond not remembering the name of someone you recently met) or trouble thinking clearly. Over time, these conditions can worsen and lead to cognitive decline, which can affect a person's ability to do everyday activities.

What Did We Learn?

A study of more than 10,000 Registry enrollees showed:

About **20%**
experienced confusion
or memory loss



Those with PTSD, depression, or anxiety were twice as likely to report confusion or memory loss compared with those without mental health conditions

The risk of confusion or memory loss was higher in those who had more than one mental health condition:

One condition

1.85

times higher risk

Two conditions

2.13

times higher risk

Three conditions

2.51

times higher risk

Research also shows that severe stress from traumatic events such as 9/11 can harm areas of the brain that affect memory and learning. PTSD, anxiety, and depression can cause changes in brain structure, including in the hippocampus, the part of the brain that controls memory. These conditions are also linked to poor sleep, heart disease, and diabetes, all of which increase the risk of cognitive decline.

Why Does This Matter?

As 9/11 survivors get older, their risk of confusion, memory loss, and cognitive conditions such as dementia and mild cognitive impairment may increase. Seeking medical care early when symptoms first present and adopting healthy lifestyle changes can help manage cognitive conditions and slow cognitive decline.

What Should I Do?

If you worked at or near or lived near the WTC site on 9/11, it is important to:



1. **Be aware of symptoms** such as frequent or unusual forgetfulness or trouble thinking clearly.



2. **Get regular medical checkups.** Let your health care provider know about your 9/11 exposure and if you have any of these symptoms. If you have a mental health condition such as PTSD, anxiety, or depression, talk to your provider about treatment options.



3. **Adopt habits that help improve cognitive health,** such as being physically active, staying socially connected to others, getting enough quality sleep each night, and eating a healthy diet.



4. **Access the health resources you need.** Programs such as the WTC Health Program offer support and monitoring for 9/11 survivors and responders.



To learn about other 9/11-related physical and mental health conditions, visit nyc.gov/911health/conditions.



Contact 988 for free, confidential crisis counseling, mental health and substance use support, and referrals to care. Call or text 988 or chat at nyc.gov/988. Text and chat services are available in English and Spanish, and counselors are available by phone 24/7 in more than 200 languages.



For questions about the WTC Health Registry, email wtchr@health.nyc.gov.