Depression After Traumatic Brain Injury

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This factsheet provides information about depression for adults with traumatic brain injury (TBI). It describes the symptoms and causes of depression. It talks about treatment options, including the best types of antidepressant medication and counseling approaches for people with TBI. Finally, it includes information about how to find help.

What Is Depression?

Depression is a mental health disorder that causes people to feel sad, hopeless, or empty. People with depression also may lose interest in or no longer enjoy their usual activities. These symptoms interfere with daily life. Having these symptoms several days a week for more than 2 weeks suggests that the person has depression.

Symptoms of depression include:

- Feeling down, sad, blue, or hopeless.
- A loss of interest or pleasure in usual activities.
- Feeling worthless, guilty, or like you are a failure.
- Changes in sleep or appetite.
- Trouble concentrating.
- Withdrawing from others.
- Fatigue or a lack of energy.
- Moving or speaking more slowly or feeling restless or fidgety.
- Having thoughts of death or suicide.

Feeling sad is a normal response to the losses and changes a person may face after a TBI. But if sadness or loss of interest or any of the other symptoms listed above last for weeks and interfere with functioning at home, work, school, or in social situations, those are signs of depression.

How Common Is Depression After TBI?

Depression is common after a TBI. Rates of depression from different studies vary widely, but on average, about 27% of people with a TBI meet the criteria for a diagnosis of major depression or persistent mild depression (dysthymia). Also, 38% have symptoms of depression that are severe enough to interfere with daily life. The average rate of major depression among people with mild TBI or concussion is 16%; the rate among those with severe TBI is 30%. People with a history of TBI are nearly eight times more likely to have major depression than the general population. The risk of depression tends to increase during the first 5 years after a TBI and to decrease slightly in the years that follow. More than half of people with TBI who are depressed also have significant anxiety.

The Model Systems Knowledge Translation Center works with Traumatic Brain Injury Model System (TBIMS) centers to provide free, research-based rehabilitation resources for people living with traumatic brain injury (see https://msktc.org/tbi for more information). This factsheet is approved by experts from the TBIMS centers.

What Causes Depression After TBI?

Many factors contribute to depression after TBI. These factors vary a great deal from person to person. They include the following:

- **Physical changes in the brain due to the TBI.** Depression may result from injury to the areas of the brain that control emotions. Changes in the levels of certain chemicals in the brain, known as neurotransmitters, can contribute to depression. These changes in levels of neurotransmitters are more likely in moderate to severe TBI than it is in mild TBI (concussion).
- **An emotional response to the TBI.** Depression can arise as a person deals with the frustration caused by changes after TBI. These changes may include cognitive or communication difficulties, or temporary or lasting disability. Other changes include a loss of independence and changes in roles within the family and society.
- **Other factors.** Some people are at increased risk for major depression in the year after a TBI. These include women and people who had depression before their TBI. It also includes people who had problems with alcohol or posttraumatic stress disorder before their TBI.

What Can You Do About Depression After TBI?

If you have symptoms of depression, it is important to seek help from a medical or mental health professional as soon as you can. Meeting with your primary care provider is a good first step. They can diagnose depression and offer you medical treatments. They can also refer you to a mental health specialist. Keep in mind that being depressed and seeking help for depression are not signs of weakness. It may help to think of depression as a medical problem, like high blood pressure or diabetes. You can't get over depression by wishing it away, using more willpower, or "toughening up." It is best to get treatment early to keep symptoms from getting worse and to avoid the negative effects depression can have on daily life.

Get help right away if you have thoughts of suicide. If you plan to harm yourself or to die by suicide, call 988, which will connect you to a Suicide and Crisis Lifeline call center; call 911 for local emergency services; or go to an emergency room right away.

The good news is that depression is treatable. As we discuss below, there is good evidence that antidepressants and counseling are effective treatments for depression. For people with major depression, research shows that using both counseling and medication together tends to work best.

Medications

Doctors often use antidepressants to treat depression. They work by helping to rebalance neurotransmitters in the brain. These medications are not addictive.

If antidepressants help with your depression, it does not mean that you have to take them forever. If a medication helps to rebalance your brain's chemistry, you may be able to stop taking it over time (for example, after 6–12 months). But each person's situation is unique. You should always consult a doctor when you start or stop an antidepressant.

Antidepressants improve mood and enjoyment. They also can help with other symptoms of depression. These include low energy, poor concentration, poor sleep, and low appetite. Most antidepressants also help with symptoms of anxiety.

There are many "classes" of antidepressants. Studies of depression in TBI have found that some classes may work better than others:

- **Selective serotonin reuptake inhibitors, or SSRIs,** are the most effective type of antidepressant for people with TBI. In particular, sertraline (Zoloft®) and citalopram (Celexa®) may have fewer side effects. They may also improve your cognition (ability to pay attention, think, and remember).
- **Serotonin-norepinephrine reuptake inhibitors, or SNRIs,** are a newer type of drug that may be a good option for people with TBI. Examples include venlafaxine (Effexor®) and duloxetine (Cymbalta®).
- Methylphenidate, a stimulant medication, may improve depressive symptoms after TBI. Methylphenidate tends to work quickly and may improve attention and information processing speed.
- You should avoid some types of antidepressants because they have side effects that can cause problems for people with TBI. These include monoamine oxidase inhibitors or MAOIs. Tricyclic antidepressants may be safe at low doses for sleep or pain, but they may cause side effects at higher doses.

Doctors often start patients on a low dose of an antidepressant and increase it gradually to get the desired effect. It may take 8–12 weeks of taking the medication consistently to get the full antidepressant effect. If you don't feel better in that amount of time, your doctor may need to switch to a different medication or add a second one. This is pretty common, so don't get discouraged or start thinking medications cannot help you. Many people benefit from the second (or even third) medication that they try.

Take your antidepressant every day, even if you start to feel better. Remember, side effects tend to decrease over time, so persistence should pay off. Do not stop taking an antidepressant suddenly. If you want to stop the medication, talk with your doctor about how to gradually taper yourself off of it. In most cases, your doctor will recommend that you take the medication for 6–12 months after you feel better to reduce the chances that the depression will come back.

Counseling and Psychotherapy

There are many kinds of counseling (sometimes called psychotherapy) for depression. The most effective therapies tend to focus on helping people get involved in more meaningful and enjoyable activities, change their negative thought patterns, or more fully accept what has happened and live out their values no matter what.

Cognitive behavioral therapy or CBT helps people learn how to change the way they act, think, and feel about things that happen to them. It also helps them to change the way they see themselves. CBT may be an effective treatment for depression for some people with TBI. CBT may also reduce anxiety.

Behavioral activation therapy or BA may help people with depression become more active by doing activities that they enjoy and find meaningful. This increased activity may help to improve mood. A professional counselor can help you set up an activity routine and assess the effects on your mood.

Acceptance and commitment therapy or ACT uses mindfulness and other exercises to help people notice and accept their thoughts and feelings rather than trying to change them. ACT helps people work toward living out their values in their daily lives no matter what they are thinking or feeling.

Keep in mind that many people do best with a combination of approaches. This may include an antidepressant medication plus sessions with a psychologist or other mental health professional to work on ways to change your activities and the way you react to difficult situations.

Other Treatment Approaches

TBI support groups may be a good source of information and support for depression after a TBI.

Another treatment of note is exercise. Many studies show that exercise is an effective treatment for mild to moderate depression in the general population. Research continues to look at the role of increased physical activity for the prevention and treatment of depression in TBI.

There are other treatment options for people who have severe depression that has not improved with standard treatments. People with persistent depression should consult a psychiatrist, psychologist, or other mental health professional with experience in treating severe depression.

How to Find Help

- Many health care providers are qualified to treat depression:
  - Primary care physicians, neurologists, physiatrists, and nurse practitioners with experience in treating depression can often help you get your treatment started. Only physicians and nurse practitioners can prescribe medications for depression.
  - Psychiatrists have specialized training in managing medications and sometimes provide counseling for depression.
  - Neuropsychologists get training in cognitive assessment and counseling and often have specialized training and knowledge about TBI.
  - Psychologists, along with some social workers and licensed professional counselors, can provide counseling for depression.
- In virtual or remote therapy, you see a therapist online, over Zoom, or talk by phone. The availability of this type of therapy has increased since the start of the COVID-19 pandemic. This type of therapy can be both convenient and helpful, especially for people in rural areas or those who have limited ability to leave their homes. Several studies have shown that people with TBI can use remote therapy effectively.

References

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Authorship

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Disclaimer: This information is not meant to replace the advice of a medical professional. You should consult your health care provider about specific medical concerns or treatment. The contents of this factsheet were developed with funding from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR; grant numbers 90DPKT0009, 90DPTB0024, and 90DPTB0001). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS). The contents of this factsheet do not necessarily represent the policy of NIDILRR, ACL, or HHS, and you should not assume endorsement by the federal government.

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