

Brain Death

What it means

Some families have questions about what “brain death” means. This handout offers information that others have found helpful. We want to help you understand how doctors determine that a person is dead based on their brain function.

What is brain death?

Brain death is the legal definition of death. It is “the complete and irreversible cessation (stopping) of all functions of the entire brain, including the brainstem.”

When a person is brain dead, their brain injury or illness is so severe that they cannot possibly recover. At this point, they cannot breathe on their own. Breathing needs to be done by a machine called a *ventilator*. It can be confusing, because their heart keeps beating, and they may look like they are just asleep. But their heart is beating only because the machine is moving air through their lungs.

This can be hard for families viewing the body. They may want to believe that their loved one is just sleeping. But when the ventilator is turned off, breathing will stop. Soon after that, the heartbeat will also stop.

How do doctors decide if a person is brain dead?

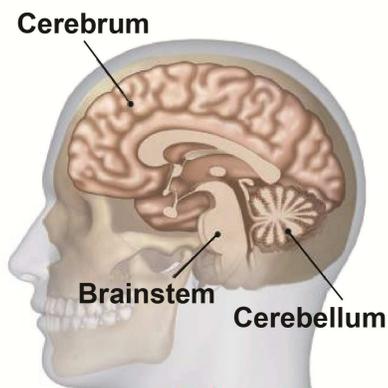
One way doctors assess how badly the brain has been injured is by testing the functions of the brain. They may see if a person can follow simple commands or respond to physical stimulation by moving their arms or legs. They may also test basic functions that the brainstem controls, such as blinking, gagging, coughing, and how the eyes respond to light.

Doctors will assess the person for brain death when all of these are true:

- The cause of the brain injury is permanent.
- There is no evidence of brain function, including brainstem function.
- Other factors are ruled out, such as drugs or low body temperature.



We hope that the information in this handout is helpful at this difficult time.



This drawing shows the parts of the brain called the brainstem, cerebellum, and cerebrum. The brainstem controls basic body functions such as breathing, swallowing, heart rate, and blood pressure. It also connects the brain to the spinal cord.

What to Expect

A diagnosis of brain death is based on medical and legal standards. The diagnosis requires 2 different doctors to assess the patient's condition at 2 different times. These doctors are experts in diagnosing brain death.

The doctors will do medical tests that are required by law. For brain death to be declared, both doctors must find that there is:

- **No motor function in response to pain.** The doctors will check for a *motor response* (movement) to something that can cause discomfort, like a hard squeeze of the earlobe or shoulder. Sometimes spinal cord reflexes, such as twitching or muscle contractions, may occur, but these are not motor responses.
- **No brainstem reflexes.** The doctors will shine a light at the person's eyes to look for a reaction. They will also touch their eyes and watch for a blink. They will touch the back of their throat to see if they cough or gag. Another test involves putting ice water in the person's ears and watching their eye movement.
- **No ability to breathe without the help of the ventilator.** For a short time, the respiratory therapist and doctor will disconnect the person from the ventilator and check to see if the rising carbon dioxide levels in the blood stimulate the person to take a breath.

Sometimes other testing may be needed. Ask your doctor to explain or show you how brain death was determined for your loved one.

What happens after someone is declared brain dead?

If someone is brain dead, they have died. Brain death is permanent and cannot be reversed. There is no recovery.

A person who has been declared dead may still have a beating heart while the ventilator is working. But their brain is no longer sending the signals that tell the body to breathe. Without the ventilator, the body cannot breathe and the heart will soon stop.

The legal time of death is when the doctor declares brain death. The time of death is **not** the time the ventilator is removed. When the doctor declares brain death, we will begin the process of stopping all medical care that keeps the body's lungs, heart, and other organs working.

If the deceased wished to be an organ donor, we may keep the ventilator working after they are declared brain dead. Staff from the organ donation organization will explain the donation process. These staff are **not** hospital staff.

The doctors who evaluate for brain death are **not** staff from the organ donation organization. These doctors also cannot have patients on the organ transplant waiting list.

We Are Here to Help

Saying goodbye to a loved one who is brain dead can be very difficult. Your loved one may be warm to the touch and have color in their face while the ventilator fills their lungs with oxygen.

You and your family might want to stay in the room while the ventilator is removed. Please tell the nurses if you and your family want to stay. Most family traditions, rites, and rituals can be practiced. Tell your nurse if you would like someone from the hospital's spiritual services to be present.

Some families decide to go home right after brain death is declared. You decide what is right for your family. We will support you.

Please tell the nurse what you and your family need. We are here to help.

Questions Other Families Have Had

Is it possible that the person is just in a coma or a vegetative state?

No. Brain death is not a coma or vegetative state. A person in a coma has brain activity. Someone in a vegetative state often has function in the brainstem that allows them to breathe. Once brain death occurs, all brain function stops.

Has anyone ever recovered from brain death?

No. Death is permanent. If anyone claims to have recovered from brain death, then the diagnosis was wrong.

Is there anything else that can be done?

Before brain death is declared, we will do everything possible to save your loved one's life, based on their desires as shown in their advance healthcare directive. After brain death, there is no chance of recovery.

Does health insurance coverage influence the diagnosis of brain death?

No. The diagnosis of brain death is completely separate from financial considerations. It is the doctor's duty to pronounce a patient's death when it occurs.

What should we do if the doctors are saying things that do not fit with our culture or religion?

Talk with your doctor, your nurse, your social worker, or a chaplain. You can bring your religious leader or trusted friend to the hospital to talk with the hospital team, or you may ask to talk with the hospital's spiritual care services staff.

Please ask us any questions that you have.

Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.