



Clinical Death: A Reversible State of Cardiac Arrest

Tobias Schroeter^{*}

Department of Neurology, University of Leipzig Medical Center, Leipzig, Germany

ABOUT THE STUDY

Clinical death is a term that describes the state of a person when their heart stops beating and their breathing stops, which are the two criteria necessary to sustain life. Clinical death can occur as a result of cardiac arrest, which is when the heart stops pumping blood in a regular rhythm. Clinical death is different from biological death, which is when all the cells and tissues in the body die and cannot be revived.

Clinical death can be reversed if the person receives prompt and effective resuscitation, which is the process of restoring blood circulation and breathing. Resuscitation techniques include Cardiopulmonary Resuscitation (CPR), defibrillation, epinephrine injection, and other treatments that can restart the heart and restore oxygen delivery to the vital organs. However, resuscitation is not always successful or possible, depending on the cause and duration of clinical death, the availability of medical resources, and the condition of the person before clinical death.

The main signs of clinical death are

- The person becomes unresponsive and falls into a coma within seconds after the heart stops beating.
- The pulse cannot be felt on the carotid arteries in the neck or any other major arteries in the body.
- The person stops breathing or makes irregular gasping sounds that are not effective for oxygen exchange.
- The pupils become wide and do not react to light, indicating a lack of blood flow to the brain.
- The skin becomes pale or cyanotic (bluish) due to low oxygen levels in the blood.

The most critical organ affected by clinical death is the brain, which is highly sensitive to oxygen deprivation. The brain cells can only survive for a few minutes without oxygen before they start to die and lose their function. The brain damage caused by clinical death can lead to permanent neurological impairment or

brain death, which is when all brain activity ceases and cannot be restored.

The diagnosis of brain death is based on clinical criteria and confirmatory tests that show no evidence of brain function or potential for recovery.

The clinical criteria for brain death include

The person does not respond to any stimuli, such as pain, sound, or light. The person does not breathe spontaneously even when given adequate oxygen and ventilation support. The person does not show any signs of brainstem function, such as pupil reaction, eye movement, gag reflex, or cough reflex.

The confirmatory tests for brain death include

- A test that measures the electrical activity of the brain and shows no detectable waves.
- A test that injects a dye into the blood vessels of the brain and shows no blood flow.

A test that uses sound waves to measure the blood flow in the arteries of the brain and shows no pulsation. Clinical death is a serious medical emergency that requires immediate intervention to prevent irreversible damage to the brain and other organs. However, clinical death does not always mean biological death, and some people can be revived after experiencing clinical death for various periods of time. Therefore, it is important to distinguish between clinical death and biological death, and to respect the wishes and rights of the person and their family regarding resuscitation efforts.

There are different types of clinical death depending on the criteria and the possibility of reversal. According to Wikipedia, clinical death is the medical term for cessation of blood circulation and breathing, which are the two criteria necessary to sustain life. Clinical death can be reversed if resuscitation techniques are applied promptly and effectively. However, if clinical death persists for more than a few minutes, it can lead to

Correspondence to: Tobias Schroeter, Department of Neurology, University of Leipzig Medical Center, Leipzig, Germany, e-mail: lei@bia.de

Received: 01-Mar-2023, Manuscript No. JCMS-23-21016; **Editor assigned:** 03-Mar-2023, Pre QC No. JCMS-23-21016 (PQ); **Reviewed:** 17-Mar-2023, QC No JCMS-23-21016; **Revised:** 24-Mar-2023, Manuscript No. JCMS-23-21016 (R); **Published:** 31-Mar-2023, DOI: 10.35248/2593-9947.23.7.227.

Citation: Schroeter T (2023) Clinical Death: A Reversible State of Cardiac Arrest. J Clin Med Sci. 7:227.

Copyright: © 2023 Schroeter T. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

brain death, which is the irreversible loss of all brain function and activity. Brain death is considered a legal and biological definition of death in most countries, and it cannot be reversed by any means. Another type of clinical death is called cellular or molecular death, which is the death of individual cells or molecules within the body. Cellular death can occur as a result of injury, disease, aging, or programmed cell death (apoptosis). Cellular death can sometimes be prevented or delayed by interventions such as gene therapy, stem cell therapy, or cryonics.