

Distinguishing states of unconsciousness

News in the [February 5, 2014](#) issue

Brain death: Brain-dead patients are no longer alive. They have suffered an irreversible cessation of all activity in both the brain and the brain stem. Reflexes that go through the spinal cord may persist even in a brain-dead state.

Coma: Patients in a coma are alive, but in a state of eyes-closed, depressed consciousness from which they cannot be aroused. Coma is distinguished from brain death by the presence of brain stem responses, spontaneous breathing or nonpurposeful motor responses. Coma has three possible outcomes: progression to brain death, recovery of consciousness, or evolution to a state of chronically depressed consciousness, such as a vegetative state or minimally conscious state.

Vegetative state: Patients in a vegetative state are alive but also have severely impaired consciousness, although their eyes may open spontaneously. The eye opening may give the impression of consciousness, but there is no awareness of the environment. These patients do not acknowledge the examiner; they do not attend or track objects that are presented to them; their movements are nonpurposeful; they do not speak.

Minimally conscious state: These patients are alive, with a severe alteration in consciousness, with intermittent, but inconsistent, behaviors suggesting awareness. Unlike patients in coma or a vegetative state, minimally conscious patients may occasionally have purposeful movements, and they may track motions with their eyes or speak.

Source: Robert Stevens, associate professor of neuroscience and critical care at Johns Hopkins University School of Medicine.