

Anencephaly

National Institute of Neurological Disorders and Stroke (NINDS)

Source

National Institute of Neurological Disorders and Stroke (NINDS). [Anencephaly Information Page](#).

Anencephaly is a defect in the closure of the neural tube during fetal development. The neural tube is a narrow channel that folds and closes between the 3rd and 4th weeks of pregnancy to form the brain and spinal cord of the embryo. Anencephaly occurs when the "cephalic" or head end of the neural tube fails to close, resulting in the absence of a major portion of the brain, skull, and scalp. Infants with this disorder are born without a forebrain (the front part of the brain) and a cerebrum (the thinking and coordinating part of the brain). The remaining brain tissue is often exposed--not covered by bone or skin. A baby born with anencephaly is usually blind, deaf, unconscious, and unable to feel pain. Although some individuals with anencephaly may be born with a rudimentary brain stem, the lack of a functioning cerebrum permanently rules out the possibility of ever gaining consciousness. Reflex actions such as breathing and responses to sound or touch may occur.

The cause of anencephaly is unknown. Although it is thought that a mother's diet and vitamin intake may play a role, scientists believe that many other factors are also involved.

Recent studies have shown that the addition of folic acid (vitamin B9) to the diet of women of childbearing age may significantly reduce the incidence of neural tube defects. Therefore it is recommended that all women of childbearing age consume 0.4 mg of folic acid daily.