



# Etiologies of Deafblindness: Microcephaly

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## What is microcephaly?

When a child has microcephaly, abnormal brain development results in a reduced head size – much smaller than peers of the same age and sex. (“Micro” means “small,” while “cephaly” comes from the Greek word for “head.”) Complications from microcephaly can result in diminished cognitive abilities and affect neurological functioning. Microcephaly can be congenital - meaning present at birth - or it can develop during infancy. It is usually the result of reduced prenatal brain growth or the brain not growing/developing as it should after birth. Microcephaly is uncommon, affecting only about 25,000 children in the U.S. annually. Microcephaly can present alone, or it can be associated with other comorbid health problems.

Microcephaly



## What causes microcephaly?

Microcephaly is typically the result of genetic problems that inhibit the prenatal development of the cerebral cortex. Microcephaly has been associated with multiple syndromes which include Down's Syndrome, several other chro-

mosomal syndromes, and numerous neurometabolic syndromes. (*Please see the websites at the end of this article for a comprehensive listing of the causes and syndromes related to microcephaly.*)

Babies may also be born with microcephaly if, during pregnancy, their mother:

- abused drugs or alcohol
- became infected with a cytomegalovirus
- became infected with rubella (German measles), or the varicella (chickenpox) virus
- became infected with toxoplasmosis
- was exposed to certain toxic chemicals
- was exposed to radiation
- had untreated phenylketonuria

Taken from <http://www.medicinenet.com/microcephaly/article.htm>

## What are the signs and symptoms of microcephaly?

Depending on the severity of the accompanying syndrome, children with microcephaly may have:

- intellectual disability
- delayed motor functions and speech
- facial distortions
- dwarfism or short stature
- hyperactivity
- seizures
- difficulties with coordination and balance
- vision and hearing problems, including deafblindness
- other brain or neurological abnormalities

Taken from <http://www.medicinenet.com/microcephaly/article.htm>

While the disabling effects of microcephaly can range from mild to profound, some children with microcephaly will have normal intelligence and a head that will grow bigger, but their head will never develop to the size of their typically developing peers.

## Is there any treatment for microcephaly?

There is no treatment for microcephaly that can return a child's head to a normal size or shape. Treatments focus on ways to decrease the negative effects of the associated deformities and neurological disabilities. Children with microcephaly and developmental delays will require regular visits to a pediatric neurologist and will likely need the services of a medical management team. Early intervention programs that incorporate physical, speech, and occupational therapies should help to maximize abilities of children with microcephaly and minimize any associated difficulties. Medications are also often used to control related seizures, hyperactivity, and neuromuscular symptoms if present.

## References:

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