

## **What is Polymicrogyria?**

Polymicrogyria (PMG) is a condition characterized by abnormal development of the brain before birth. The surface of the brain normally has many ridges or folds, called gyri. In people with polymicrogyria, the brain develops too many folds, and the folds are unusually small. The name of this condition literally means too many (poly-) small (micro-) folds (-gyria) in the surface of the brain.

Polymicrogyria can affect any part of the brain or the whole brain. When the condition affects one side of the brain, researchers describe it as unilateral. When it affects both sides of the brain, it is described as bilateral. The signs and symptoms associated with polymicrogyria depend on how much of the brain, and which particular brain regions, are affected. Bilateral is more severe than unilateral but either one can vary in severity.

## **What are the symptoms of PMG?**

Symptoms of PMG can vary widely and depend on how much and what part(s) of the brain are affected. However, there are some symptoms that are fairly common in children with PMG:

- ❖ Difficulty with speaking, swallowing, or chewing
- ❖ Epilepsy ( recurrent seizures) -mild to severe
- ❖ Developmental delays related to neurological impairment of the muscles or cerebral palsy
- ❖ Mild to severe intellectual disability

## **What causes PMG?**

At the current time most families do not know what caused their children to have PMG. However, it is a known fact that cytomegalovirus (CMV) can cause PMG, especially if the mother's first exposure to the virus is during her pregnancy. One major issue is that the CMV virus can seem like a severe cold, flu, or mononucleosis-like (kissing disease) illness and thus goes undetected and untreated. Although there is a treatment (hyper immune globulin) for confirmed cases of symptomatic or primary CMV infection, the sad truth is, most pregnant women are not warned about CMV, how it spreads, or what the devastating effects could be. There is NO mandate from the government or the governing medical bodies that make this information mandatory. This is something that simply must get changed!

Other causes can be environmental, a problem with oxygen to the fetus, or genetic anomalies. There are rare instances of some hereditary forms of PMG. Much more needs to be researched but the funding for research is very poor. Here again, is something that the PMG Awareness Organization hopes to impact in the near future.

As technology has advanced with better quality imaging such as MRI's, more and more children are being diagnosed. Unfortunately, a lot of children who have less severe cases of PMG frequently go undiagnosed. Currently, according to the National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC), the prevalence is about 1:2500 live births, but it is believed that there are a lot more cases that are undiagnosed. Among the less severe cases of PMG, it is often not found unless there is a significant event in the child's life that leads to an MRI. But even with an MRI, it can still go undiagnosed. Why? It typically takes a special type of radiologist, called a neuro-radiologist, to

diagnose PMG. Even then, it can easily be misdiagnosed. We hear of cases all the time that go undiagnosed or misdiagnosed. As internet research, MRI, and other imaging technology advances, so are the numbers of children who are being diagnosed with PMG.

## **Why is it important to get a diagnosis?**

The answer in that question is multi-fold:

- ❖ Without a diagnosis, many children are not afforded proper medical care and other benefits
- ❖ Without accurate statistical data, the number of cases seem smaller and therefore the funding for research and treatment is very poor
- ❖ As more children are diagnosed, the public becomes more aware of their needs
- ❖ Early diagnosis is CRITICAL- delay of diagnosis often means that therapy and treatment during "the golden era of childhood development" (the first three years) is missed, leaving the child with a greater chance of permanent loss of developmental goals
- ❖ EVERY parent/family of an undiagnosed child deserves to have an answer!

## How can YOU help?

- ❖ You can print this flyer and take it with you to your pediatrician, neurologist, physical therapist, occupational therapist, speech and language pathologist, OB/GYN, or other health care provider
- ❖ The PMG Awareness Organization is a tax-exempt 501(c)(3) Public Charitable Organization and as such is able to receive tax deductible bequests, devises, transfers, gifts, or donations. Please consider making a donation to help us in our mission at: <http://pmgawareness.org/help-pmga/>
- ❖ Visit our website at: [www.pmgawareness.org](http://www.pmgawareness.org) to learn more about PMG.
- ❖ Like us on Facebook at <https://www.facebook.com/PMGAwareness>
- ❖ Join our group page on Facebook: <https://www.facebook.com/#!/groups/PMGAwareness/>
- ❖ Follow us on Twitter @PMGAwarenessOrg
- ❖ Volunteer at <http://www.pmgawareness.org/Help-PMGA.html>
- ❖ Join our cause- spread the word in any way you can!

# PMG Awareness Organization, Inc.



*A nonprofit organization to promote awareness of Polymicrogyria based in Jacksonville, FL.*

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