

Study suggests a relationship between migraine headaches in children and a common heart defect

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Roughly 15% of children suffer from migraines, and approximately one-third of these affected children have migraines with aura, a collection of symptoms that can include weakness, blind spots, and even hallucinations. Although the causes of migraines are unclear, a new study soon to be published in *The Journal of Pediatrics* suggests a connection between migraine headaches in children and a heart defect called patent foramen ovale, which affects 25% of people in the U.S.

Dr. Rachel McCandless and colleagues from the Primary Children's Medical Center and the University of Utah studied children 6-18 years old who were diagnosed with migraines between 2008 and 2009. The 109 children enrolled in the study were treated at the Primary Children's Medical Center, which serves kids from Utah, Idaho, Montana, Nevada, Colorado, and parts of Wyoming.

The researchers took two-dimensional echocardiograms of each child's heart, looking for a patent foramen ovale (PFO), a common defect in the wall between the two upper chambers of the heart. Although a PFO is not necessarily dangerous, it can allow unfiltered blood to bypass the lungs and circulate throughout the body. As Dr. McCandless explains, "Some adult studies have suggested a link between having a PFO and [migraine](#) headaches."

Of the studied children who had migraines with aura, 50% also had a PFO; this is nearly double the PFO rate of the general population. However, only 25% of [children](#) who had migraines without aura had a PFO. Dr. McCandless and colleagues hypothesize that if a causal relationship can be established, closure of a PFO with a [catheter](#) device may help in the treatment of certain kinds of migraines, specifically migraines with aura. It is her

hope that "our study will help guide future research about this difficult problem."

More information: "Patent Foramen Ovale in Children with Migraine Headaches" by Rachel T. McCandless, MD, Cammon B. Arrington, MD, Douglas C. Nielsen, James F. Bale, Jr., MD, and L. LuAnn Minich, MD, appears in *The Journal of Pediatrics*, [DOI:10.1016/j.jpeds.2011.01.062](https://doi.org/10.1016/j.jpeds.2011.01.062)

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