

## BMT may protect IQ in children with sickle cell disease

A small study found that blood or marrow transplant (BMT) may preserve intelligence in children with sickle cell disease.

Sickle cell disease impairs blood flow. This can cause clots or bleeding in the brain (strokes) and can damage blood vessels resulting in brain damage. Brain damage can affect thinking, performance, and intelligence quotient (IQ) scores. People with sickle cell disease lose about 1 IQ point per year.

BMT can cure sickle cell disease. BMT from a matched brother or sister is best and may help preserve IQ. But only 25% (1 out of 4 children) have a suitable match in their family. Using donors who aren't relatives can help more children get life-saving transplants. However, until recently, no one knew if transplants from unrelated donors could protect IQ.

Researchers studied 13 children for 2 years after BMT from unrelated donors. The children were 6 to 17 years old, and the study took place between 2008 and 2014. Before and after transplant, the children took tests to measure their intelligence. At the end of 2 years, most children's intelligence stayed the same. Because these children no longer have sickle cell disease, doctors don't expect these children to lose any more IQ points. Meanwhile, children with the disease may continue to lose an average of 1 IQ point each year.

### Keep in mind

BMT can have serious side effects. This study was small; more research is needed

### Consider asking your doctor

Is BMT an option to treat sickle cell disease in my child?

### Source

King AA, McKinstry RC, Wu J, et al. Functional and Radiologic Assessment of the Brain after Reduced-Intensity Unrelated Donor Transplantation for Severe Sickle Cell Disease: Blood and Marrow Transplant Clinical Trials Network Study 0601. *Biology of Blood and Marrow Transplantation*. 2019 Jan 11. doi: 10.1016/j.bbmt.2019.01.008. [Epub ahead of print] Epub 2019/01/15.



### Learn more about

- This study from its [publication](#)
- This [study](#) on ClinicalTrials.gov
- [Sickle cell disease](#) from BeTheMatch.org
- [Sickle cell disease clinical trials](#) from JCCTP.org

### About this research summary

The Blood and Marrow Transplant Clinical Trials Network (BMT CTN) conducts research that helps thousands of people live longer and feel better.



### BMT CTN Data Coordinating Center

Center for International Blood and Marrow Transplant Research® • Froedtert and the Medical College of Wisconsin • Clinical Cancer Center  
9200 W. Wisconsin Avenue • Suite C5500 • Milwaukee, WI 53226 • 414-805-0700 • Fax: 414-805-0714