

Tight blood sugar control for pediatric cardiac surgery patients does not improve outcomes

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Tight blood sugar control in the intensive care unit for pediatric cardiac surgery patients does not improve patients' infection rate, mortality, length of stay or organ failure when compared to standard care, new research shows.

The research, conducted at the University of Michigan's C.S. Mott Children's Hospital and Boston Children's Hospital, will be published Online First in the [New England Journal of Medicine](#) Sept. 7.

"Post-operative complications for infants and young children who have cardiac surgery remains common, so we want to identify risk factors that we can modify and interventions to help speed their recovery," says Michael G. Gaies, M.D., M.P.H., a physician in the [Cardiac Intensive Care](#) Unit at C.S. Mott, and senior author of the study.

"Tight glycemic control using insulin was shown, in some studies, to improve outcomes in adult cardiac surgery patients, but we didn't know whether children would experience similar benefits."

The researchers studied 980 children from newborn to three years old who were undergoing surgery with cardiopulmonary bypass, representing the largest clinical trial ever performed in pediatric cardiac surgical patients. Patients either received standard cardiac intensive care or tight glycemic control using insulin to target blood glucose at a normal level.

"We found no benefits of tight glycemic control, but the reasons are unclear," says Gaies.

Gaies says that routine control of [blood sugar levels](#) in pediatric cardiac intensive care units has been controversial because of the contradictory results in adult patients and also concerns about the effects of insulin-induced hypoglycemia on the developing brain.

"This study seems to indicate that tight glycemic control should not be standard practice in [pediatric intensive care](#) units for children who have had cardiac surgery," says Gaies. "We will continue investigating new approaches to improve both short-term recovery and longer-term outcomes for children who need cardiac surgery."

More information: [doi: 10.1056/NEJMoa1206044](https://doi.org/10.1056/NEJMoa1206044)

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