

Technique developed to improve appendicitis care for pediatric patients

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Researchers from Children's Minnesota (Children's) and HealthPartners Institute have developed a new pediatric appendicitis risk calculator (pARC) to aid in the diagnosis of appendicitis. The calculator was developed as part of a \$3.1 million, five-year grant from the National Institutes of Health (NIH).

In the April issue of *Pediatrics*, the researchers describe a novel method to calculate a patient's specific risk for appendicitis. With this new method, clinicians will be able to provide tailored medical and surgical guidance to a patient. In the study, researchers used data collected from ten pediatric emergency departments to develop the risk calculator and then independently validated the score using data from a single children's hospital. Potential benefits of using the new risk calculator include a reduction in the use of computed tomography (CT), more judicious utilization of ultrasound and a reduction in healthcare expenditures.

"This [method](#) is of great benefit to our [patients](#) and the health care system overall," said Dr. Anupam Kharbanda, co-Principal Investigator and chief of critical care services at Children's Minnesota. "In addition to being able to target our care specifically to each patient, we're also reducing the use of unnecessary medical tests and expenses. We're thrilled to have developed a new way to standardize care for children and adolescents with abdominal pain."

Abdominal pain is one of the most common reasons children visit the [emergency department](#) and appendicitis is the most frequent surgical emergency in pediatrics. CT is one of the most common ways clinicians diagnose appendicitis and CT scans are not only costly, but can also put pediatric patients at risk for radiation-induced injuries, especially because their bodies are smaller and organs more sensitive than adults. As a result, researchers at Children's and

HealthPartners have sought methods to develop a safer, more cost-efficient way to determine the risk for appendicitis when a patient has presented at an emergency department with [abdominal pain](#).

Children's and HealthPartners continue to collaborate on methods to improve the care of children in our community. The same researchers, along with colleagues from Kaiser Permanente Northern California, are conducting a 17-center trial to improve the care of [pediatric patients](#) who seek care in general emergency departments, including the six HealthPartners-affiliated [emergency](#) departments. This study will utilize the appendicitis risk calculator to guide care in the community setting.

Provided by Children's Hospitals and Clinics of Minnesota

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