

General emergency departments use CT to diagnose abdominal pain in children more often

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A child with non-traumatic abdominal pain, a common symptom of appendicitis, is more likely to receive a computed tomography (CT) scan in a general emergency department (ED) than if he or she visited a pediatric emergency department, according to a study published in *Pediatrics*.

Though overall use of CT in pediatric non-traumatic abdominal pain has plateaued since 2011, the study's findings indicate a significant difference in imaging protocol practices for children depending on where they are taken for [emergency](#) care.

"An estimated 21.1 million emergency department visits for children with abdominal pain occur each year, and 80 percent of those are seen in the general emergency departments," says Joanna Cohen, M.D., a pediatric emergency physician at Children's National Health System and senior author of the study. "Similar patients seen in pediatric emergency departments with these symptoms are less likely to receive a CT scan and therefore less likely to incur the radiation exposure that accompanies CT."

Children in the [pediatric emergency](#) setting were more likely to receive an [ultrasound](#) for diagnosis—an approach reflected in current clinical practice guidelines for pediatric imaging, which is aimed at reducing unnecessary radiation exposure. Radiologists have found ultrasounds,

though not as precise as CT, to be an effective diagnostic tool in many cases, with no negative impact on outcomes. As a result, a significantly smaller number of cases require CT for diagnosis—only those where ultrasound outcomes weren't definitive.

Using data from the National Hospital Ambulatory Medical Care Survey, the study completed a repeat cross-sectional analysis to observe national ED trends in CT and ultrasound imaging for pediatric non-traumatic abdominal pain for a period of eight years, from 2007 through 2014. In addition to the differences in usage between pediatric and general EDs, the study finds that CT use has stayed flat since 2011, indicating that the upward trend of CT use reported from 1999-2009 has slowed or stopped in recent years.

"This study has shown us two things: first, national awareness of the risks of [radiation exposure](#) for children may now be influencing national imaging trends in a positive way," Dr. Cohen continues, "And second, encouraging the dissemination of pediatric focused radiology protocols to general EDs may help further advance this [trend](#)."

Provided by Children's National Medical Center

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