

Advancing emergency care for kids: Emergency physicians do it again

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Most children with isolated skull fractures may not need to stay in the hospital, which finding has the potential to save the health care system millions of dollars a year ("Isolated Skull Fractures: Trends in Management in U.S. Pediatric Emergency Departments"). In addition, a new device more accurately estimates children's weights, leading to more precise drug dosing in the ER ("Evaluation of the Mercy TAPE: Performance Against the Standard for Pediatric Weight Estimation"). Two studies published online this month in *Annals of Emergency Medicine* showcase some of the work emergency physicians are doing to improve care for children in the nation's emergency departments.

One study posits that most children who are hospitalized with isolated skull fractures may instead be discharged home safely from the ER. Researchers found that of children hospitalized with isolated skull fractures between 2005 and 2011, 85 percent were discharged within 1 day and 95 percent were discharged within 2 days. A very small number – 1.2 percent of all the children who were hospitalized – received repeated computed tomography (CT) imaging and one child required a [neurosurgical procedure](#). Costs for hospitalized patients compared to patients discharged home from the emergency department were more than triple (\$619 versus \$2,064).

"Although only 1 percent of children evaluated in the [emergency department](#) for head trauma will require neurosurgical intervention, [head trauma](#) results in over 50,000 hospitalizations and \$1 billion in hospitalization costs every year," said lead study author Rebekah

Mannix, MD, MPH, of Boston Children's Hospital in Boston, Mass. "Further investigation is needed to determine whether so many admissions are warranted and if [patient safety](#) and cost-effectiveness might both be satisfied by discharging more children with skull fractures home."

In another study, researchers compared the accuracy of two new weight estimation devices called the 2D-Mercy TAPE and the 3D-Mercy TAPE against the Broselow method, which is currently the best available tool for estimating children's' weights. (TAPE stands for TAKing the guesswork out of Pediatric weight Estimation.) The proportion of children predicted within 10 percent and 20 percent of their actual weight was 76 percent and 98 percent for the 2D TAPE and 65 percent and 93 percent for the 3D TAPE. Excluding the one-third of children who were too tall to be measured, the Broselow tape predictions were within 10 percent and 20 percent of actual weight in 59 percent and 91 percent of children.

"The Mercy TAPes outperformed the Broselow tape for pediatric weight estimation and can be used in a wider range of children, without the height restrictions of the Broselow tape that limit its use in approximately one-third of the pediatric population" said lead study author Susan Abdel-Rahman, Pharm.D, of the Children's Mercy Hospitals and Clinics in Kansas City, Mo. "It may prove useful for emergency care with perhaps an even bigger impact on the care of children in limited-resource settings."

Provided by American College of Emergency Physicians

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