

Children with simple skull fractures may not need hospitalization

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Challenging the longstanding practice of keeping all children with head injuries in the hospital overnight, new research from Ann & Robert H. Lurie Children's Hospital suggests that patients with simple skull fractures can be sent home safely if they have no evidence of brain injury and no neurologic symptoms.

The results, published in the April issue of the *Journal of Pediatric Surgery*, call into question the wisdom and practicality of keeping such low-risk patients hospitalized overnight.

If reaffirmed in larger studies, the findings can pave the way toward ending a pervasive practice that may be both unnecessary and costly, the researchers say.

The analysis, based on a review of records of patients with simple [skull fractures](#) treated at Lurie Children's over a decade, revealed that more than three-quarters were admitted to the [hospital](#) for overnight observation, incurring thousands of dollars in additional costs. Yet, none of those admitted for overnight stay had any complications or needed additional imaging or tests.

"These 'just in case' overnight stays appear to be not only unwarranted and wasteful, but can be disruptive for the family and traumatic for the child," says lead investigator Catherine Hunter, M.D., a pediatric surgeon at Lurie Children's and assistant professor of surgery at Northwestern University Feinberg School of Medicine. "Reducing the

number of unnecessary hospitalizations can help generate substantial savings to individual patients and the healthcare system as a whole."

Nearly half a million U.S. [children](#) are seen in emergency rooms every year for suspected traumatic head injuries. While a portion of patients who end up in the emergency room with head trauma are seriously injured, researchers say, many have minor, uncomplicated injuries that may need nothing more than a thorough neurologic exam to rule out more serious brain trauma. Despite evidence showing that children with minor head injuries and normal neurologic exams are at very low risk for complications, keeping all children with head injuries in the hospital for observation has remained a widespread practice.

"Our findings underscore the notion that not all head injuries are the same, and that kids with isolated skull fractures and no other symptoms may be perfectly safe going home," says Rashmi Kabre, M.D., co-author on the paper and director of pediatric trauma at Lurie Children's.

For their study, researchers analyzed data obtained from records of 71 children treated at Lurie Children's for uncomplicated [head injuries](#) over 10 years. Of the 71 children treated in the emergency room, 78 percent were kept for overnight observation. None required additional imaging or treatment. All fared well and were sent home the next day. On average, a child's overnight stay incurred an additional \$4,291 in hospital costs.

The research team emphasizes that their analysis purposefully excluded children with serious head traumas, loss of consciousness and brain bleeding. Such children are deemed high risk and must be kept in the hospital for further testing and observation. The analysis focused exclusively on children with normal exams and no signs of neurologic damage such as confusion, severe headache, vomiting, seizures or dizziness, all of which can signal serious brain injury.

In an era of greater financial accountability, reducing the number of unnecessary hospitalizations could generate substantial savings to consumers and the healthcare system, the researchers say.

However, the team cautions, any cases of isolated fractures that suggest non-accidental trauma or intentional injury, such as child abuse, require further evaluation and overnight observation, even if the child is neurologically intact.

Provided by Ann & Robert H. Lurie Children's Hospital of Chicago

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