# Ibuprofen is as effective as acetaminophen with codeine to treat pain in children with arm fractures

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Children with arm fractures fared as well with ibuprofen to control their pain as acetaminophen with codeine, according to a new study by researchers at the Medical College of Wisconsin, Milwaukee, and Children's Research Institute.

The study, which was led by Amy Drendel, D.O., assistant professor of pediatrics at the Medical College, will appear in the Aug. 18, 2009, issue of the Annals of Emergency Medicine. Dr. Drendel also is a pediatric emergency medicine specialist at Children's Hospital of Wisconsin.

Up to this point, an evidence-based pain management regimen for children with simple arm fractures after discharge from the emergency department has not been identified.

"Our study calls into question the practice of using acetaminophen with codeine as a rescue medicine if ibuprofen fails to treat fracture pain for children," explains Dr. Drendel.

This study compared how children ages four to 18 years respond to treatment when prescribed ibuprofen or acetaminophen with codeine for pain. Overall, there was no difference in the number of children that failed treatment in the two groups but the children receiving ibuprofen reported better functional outcomes, higher satisfaction, and fewer adverse effects than those receiving acetaminophen with codeine.

In the ibuprofen group, 29.5 percent reported an adverse effect, compared with 50.9 percent of the acetaminophen with codeine group. Additionally, almost 90 percent of children treated with ibuprofen preferred the same treatment for future fractures, compared with only 72 percent of the acetaminophen with codeine group.

The clinical trial evaluated, treated and discharged 336 children from the Children's Hospital of Wisconsin emergency department between August 2003 and September 2007.

This study shows most arm fractures require treatment of pain at home since 93 percent of children received pain medication. Both groups received a median of three doses of their respective medicine in the first 72 hours though some children required up to 16 doses. Pain also affects the ability of these children to function with 60 percent reporting limitations on the date of injury and almost 30 percent continuing to be limited on the third day.

The treatment was considered a success when the patients reported that the pain medication achieved the desired pain reduction and a failure when the medicine did not impact the pain requiring the child to take a rescue pain medication. The ibuprofen group reported lower incidence of treatment failure than did the acetaminophen group, though not statistically significant.

"The majority of children with simple arm fractures have pain at home significant enough to result in analgesic administration and our study helps clinicians make an informed decision about what medication will work best for children with these injuries once they are sent home," points out Dr. Drendel.

Source: Medical College of Wisconsin (news : web)