Use Of Simple Rule In Children's Ankle Injuries Reduces Use Of Radiography By 22 Percent

Radiography is widely used in diagnosing ankle injuries, with 85 percent–95 percent in pediatric injuries, although only 12 percent of these show fractures.

"Radiography is unnecessary for most children's ankle injuries, and these high rates of radiography needlessly expose children to radiation and are a questionable use of resources," writes Dr. Kathy Boutis, a pediatric emergency department physician at the Hospital for Sick Children (SickKids) and the University of Toronto, with coauthors.

The Low Risk Ankle Rule is highly accurate at identifying fractures and can potentially reduce the need for radiography by 60 percent. It states that if a child with an ankle injury has a low-risk examination, ankle radiography may not be necessary to further exclude a high-risk ankle injury. If a subset of minor lateral ankle fractures is missed, evidence shows that these are exceptionally stable and low risk for any future issues and can be treated like an ankle sprain. Reducing radiography can lower exposure to low levels of radiation, contain costs and speed up treatment.

Researchers implemented the Low Risk Ankle Rule in 6 Canadian emergency departments to determine whether it reduced the use of radiography in children. The study involved 2151 patients (1055 at intervention and 1096 at control sites) between the ages of 3 and 16 years who presented at an emergency department with a nonpenetrating ankle injury. By applying the rule, the use of ankle radiography was reduced by about 22 percent. This reduction was consistent in different emergency departments and is similar to the Ottawa Ankle Rule used with adults.

"The implementation of the Low Risk Ankle Rule led to a significant decrease in imaging, associated increase in clinically important fractures being missed or decrease in patient or physician satisfaction," write the authors. "The ankle rule has potential broad applicability to emergency departments throughout most of the developed world, and widespread implementation of this rule could safely lead to reduction of unnecessary radiography in this radiosensitive population and a more efficient use of health care resources."

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