Title: Emergency Department Bedside Ultrasound Diagnosis of Constipation in Children

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Synopsis:

The specific aim is to determine whether bedside ultrasound can be used to accurately diagnose constipation through measurement of the rectal diameter.

Constipation is extremely common in children with an estimated prevalence as high as 28%. In 2010, Children’s Hospital and Research Center Oakland emergency department treated over 1100 patients with constipation. There is a significant amount of morbidity associated with constipation including dysfunctional voiding and urinary tract infection and the development of fecal impaction requiring treatment with enema, bowel irrigation, manual or surgical disimpaction. Constipation is primarily a clinical diagnosis.

Although treating physicians frequently evaluate patients through the use of plain abdominal radiograph to support the diagnosis, plain abdominal x-ray has not been shown to be reliably associated with constipation and may unnecessarily expose patients to radiation and lengthen emergency department visits.

Ultrasound measurements of the rectum have been studied in pediatric surgical and urologic patients and have been shown to be an accurate, safe and quick tool in making the correct diagnosis of constipation and for assessing severity. To our knowledge there have not been any prior studies of bedside ultrasound in the pediatric emergency department to diagnose constipation.

Investigators aim to demonstrate that the transverse rectal diameter may be rapidly, easily and accurately measured in the pediatric emergency department to diagnose constipation and may serve as an alternative to plain radiograph.