

# Unique gastroenterology procedure developed in adults shows promise in pediatrics

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The use of device-assisted enteroscopy, a technique that allows complete examination of the small bowel, may be just as successful in pediatrics as it has been in adult medicine, according to a study from Nationwide Children's Hospital.

One of these techniques known as Double-Balloon Enteroscopy (DBE), a procedure readily available in adults, allows doctors to reach parts of the small intestine that cannot be reached using standard endoscopic procedures. Due to access issues and size limitations, DBE is rarely considered an option in pediatrics. As a result, little is known about this technique in children.

"Since the introduction of fiberoptic endoscopy in the 1950s, [gastrointestinal endoscopy](#) has undergone dramatic progress in how it can aid in the diagnosis and treatment of patients," said Steven H. Erdman, MD, [gastroenterologist](#) and at Nationwide Children's Hospital and one of the study authors.

Yet, even with this progress, endoscopic examination and treatment in the small intestine has remained a challenge, especially in children.

"Small intestinal enteroscopy in the pediatric population remains relatively unknown and underutilized," said Dr. Erdman, also a professor of Clinical Pediatrics at The Ohio State University College of Medicine.

To shed light on the indications and possible benefits of DBE in children, physicians from Nationwide Children's reviewed the outcomes of DBE cases performed at the hospital during a two-year period. The physicians performed a total of 13 DBE procedures on 11 pediatric and adolescent patients. Prior to the DBE, all patients underwent a detailed diagnostic evaluation including laboratory testing and diagnostic radiologic imaging along with upper endoscopy, colonoscopy and [capsule endoscopy](#) (CE) tests. Abnormal small intestinal CE findings or continued [small bowel disease](#) symptoms without diagnosis by conventional methods were used as indications for DBE.

Two of the patients underwent DBE for treatment of small intestinal polyps associated with Peutz-Jeghers Syndrome which dramatically improved their symptoms of abdominal pain and bleeding. Another patient's DBE was done to remove a bleeding small intestinal vascular malformation that had caused years of symptoms resolving chronic anemia. Two other patients had histories of bloody diarrhea, anorexia and weight loss; lower DBE provided evidence leading to the diagnosis of Crohn's disease when other medical techniques had been unsuccessful.

DBE can be associated with abdominal discomfort following the procedure due to gaseous distention as was seen in five of the 13 procedures. Utilizing carbon dioxide rather than regular air to fill the intestine during this procedure has eliminated this issue.

Noting the limitations of this study on a small number of patients from a single institution, Dr. Erdman says that DBE appears to hold promise for pediatrics. "Our experience suggests that DBE shows great potential in the diagnosis and management of pediatric small intestinal disease without undue risk," he said. Since completion of the original report, eight additional DBE procedures have been completed with similar positive outcomes.

Although DBE shows great potential, Dr. Erdman warns that pediatric centers may not be able to devote the necessary resources and time needed to provide this type of service. "DBE remains a resource-intensive procedure requiring multiple staff, general anesthesia and extended procedure time in addition to cost outlays for equipment," he said. "These instruments were designed for use in adults and size is a limitation that remains to be address before DBE can become a more standardized tool in pediatric gastroenterology."

Provided by Nationwide Children's Hospital

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