

Sophia Kim, MD
Faiqa Qureshi, MD

From the Department of Pediatrics (Kim), and the Department of Pediatric Emergency Medicine (Qureshi), Children's Hospital of the King's Daughters, Eastern Virginia Medical School, Norfolk, VA.

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Figure. Supine radiograph of the abdomen reveals hyperdense material in lower abdominal bowel loops (arrows), with dilation in the upper abdominal bowel loops, concerning for small-bowel obstruction. Used with permission of Faiqa Qureshi, MD, Department of Pediatric Emergency Medicine, Children's Hospital of the King's Daughters, Eastern Virginia Medical School, Norfolk, VA.

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An 18-month-old girl presented to the emergency department after a 1-day history of multiple episodes of emesis and an unusual appearance of her stool. The patient and her family had been vacationing at the beach during the previous week. She had no significant medical history and was receiving no medications. Physical examination revealed a playful well-hydrated child with normal cardiac and respiratory findings. The abdomen was soft, nontender, and nondistended, with normoactive bowel sounds. There were no palpable masses or hepatosplenomegaly. The initial abdominal radiograph is shown in the [Figure](#).

*For the diagnosis and teaching points, see page 386.
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other insurance in obtaining outpatient care.¹ We would, therefore, be reluctant to ascribe frequent ED use to the lack of financial consequences. Privately insured individuals still make up the bulk of frequent ED visits, even with higher copays for this service.¹

Kelly A. Hunt, MPP
New York State Health Foundation
New York, NY

Ellen J. Weber, MD
Division of Emergency Medicine, Department of Medicine
University of California, San Francisco
San Francisco, CA

Jonathan A. Showstack, PhD, MPH
Institute for Health Policy Studies and Department of Medicine

University of California, San Francisco
San Francisco, CA

David C. Colby, PhD
Research & Evaluation, Robert Wood Johnson Foundation
Princeton, NJ

Michael L. Callahan, MD
Division of Emergency Medicine, Department of Medicine
University of California, San Francisco
San Francisco, CA

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DIAGNOSIS:

Small-bowel obstruction as a result of sand pica. The radiograph demonstrates partial small-bowel obstruction as a result of sand in the bowel lumen. Further questioning revealed that the child had been caught ingesting handfuls of sand throughout her vacation. A CBC count revealed a microcytic anemia.

The child was admitted and given serial tap water enemas, which eventually cleared the obstruction. Within 24 hours, she was tolerating oral feedings without any further episodes of emesis or diarrhea.

Pica is defined as the persistent eating of nonnutritive substances for a period of at least 1 month, without any association with an aversion to food.¹ The definition can be broadened to encompass any behavior manifested by the eating of a nonfood that is unusual in kind or quantity,² including ice (pagophagia), hair, plaster, clay or dirt (geophagia), laundry and corn starch (amylophagia), ashes, and cigarette butts. There are only a few case reports specifically associated with sand.^{3,4}

The cause of pica remains unclear.⁵ The postulated explanations include variances of cultural or folk medicine practice, nutritional deficiencies such as zinc or iron, psychiatric disturbances, sensory appeal (enjoying the smell, texture, or taste of the item), starvation, or a combination of these factors.

In most cases, the behavior is discovered when the patient develops complications such as anemia, lead poisoning, metabolic derangements, or, as in this case, partial intestinal obstruction.

Treatment for pica includes education, nutritional and psychological counseling, or behavior modification therapy,⁵ plus the treatment of complications.

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