

## Magnets in the bowel: A sticky problem!

At the start of a working day, you meet concerned parents presenting their three-year-old daughter to the emergency department. During the previous 24 h, she refused solids, drank less liquid and complained of abdominal pain. Her last bowel movement was two days ago and she had a restless night. At home and at her family daycare, nobody else is sick.

Physical examination revealed a tired-looking, well-hydrated girl with a low-grade fever (temperature of 38°C). Her blood pressure was normal. You found her abdomen to be slightly distended with decreased bowel sounds but without any localized tenderness. Her complete blood count showed mild leukocytosis and her urinalysis was normal. An abdominal radiograph confirmed bowel distention with few air fluid levels. Three small circular radiopaque objects were detected. She underwent a laparotomy and three 5 mm magnets were removed. Her postoperative course was uneventful. Her parents later confirmed that she had received a magnetic toy at her birthday two weeks ago.

### LEARNING POINTS

- In August 2007, the CPSP sent a one-time survey question on magnetic toys to 2442 participants and found that 61% of the 974 respondents were aware of the health hazards related to magnetic toys. Nineteen cases were identified, including children with small bowel obstruction and perforation.
  - Toys containing small magnets (3 mm to 8 mm) carry the risk of ingestion or aspiration.
  - If more than one is swallowed, the magnetic objects can be powerful and can attract each other in different segments of the bowel, causing intestinal perforations or obstructions and requiring surgical removal.
- In 2006, following incident reports and the death of a 20-month-old infant, the United States recalled the Magnetix (MEGA Brands Inc, Canada) and the Polly Pocket (Mattel Inc, USA) toys. Recalls of other magnetic toys were issued in 2007.
- Health care providers should have a high index of suspicion of the possibility of multiple magnet ingestion in children presenting with early signs of abdominal obstruction because the clinical presentation can be subtle.
- Abdominal radiographs that document small radiopaque objects should raise the suspicion of multiple magnet ingestion and should prompt an urgent referral to a paediatric surgeon. Note that multiple magnets may align together in a rod or cylinder shape and may appear as a single object.
- If a child has swallowed a magnet, an abdominal radiograph should be obtained. If the child is asymptomatic, parents must inspect stools daily and repeat radiographs should be performed serially until evacuation.
- Parents and other caregivers should be advised to keep magnetic toys out of environments in which children younger than six years of age are playing. Magnet ingestion can result in serious injury to the bowel.
- Parents and paediatric health care providers are encouraged to consult Health Canada's fact sheet, entitled "Facts for hazards of ingesting small magnets", currently available online at <[www.hc-sc.gc.ca/cps-spc/pubs/cons/magnets\\_danger-aimant\\_e.html](http://www.hc-sc.gc.ca/cps-spc/pubs/cons/magnets_danger-aimant_e.html)>
- Any magnetic toy-related incidents should be promptly reported to the Health Canada Consumer Product Safety Office at CPS-SPC@hc-sc.gc.ca or at 1-866-662-0666 (toll-free).

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*The Canadian Paediatric Surveillance Program (CPSP) is a joint project of the Canadian Paediatric Society and the Public Health Agency of Canada, which undertakes the surveillance of rare diseases and conditions in children and youth. For more information, visit our Web site at <[www.cps.ca/cpsp](http://www.cps.ca/cpsp)>.*