

REPORT OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH

CSAPH Report 2-A-15

Subject: Ban on Super Magnetic Toys as a Choking and Gastrointestinal Hazard to Children (Resolution 411-A-14)

Presented by: Stuart Gitlow, MD, Chair

Referred to: Reference Committee D  
(Peter H. Rheinstein, MD, Chair)

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1 Resolution 411-A-14 introduced by American Medical Group Association and referred by the  
2 House of Delegates asked:

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4 That our American Medical Association work with the Consumer Product Safety Commission  
5 (CPSC) and other relevant governmental agencies to prohibit the sale of neodymium magnetic  
6 balls whose flux, or magnetic, strength index is greater than 50 and also who fail the CPSC's  
7 cylinder tests for choking hazards.  
8

9 **BACKGROUND**

10  
11 In 2008, a new type of magnet product appeared on the U.S. market, imported mostly from  
12 manufacturers based in China and constructed in sets of 200-plus BB-sized powerful magnets as  
13 adult desk toys for general amusement. These “super” magnet sets typically are made from alloys  
14 of neodymium, iron, and boron, and are coated with colorful metals or other materials to enhance  
15 their appeal. Sets also may be available for purchase via Internet-based stores or locations.  
16

17 Ingestion of these super magnets can lead to clumping, gastrointestinal blockage, perforation, and  
18 other acute injuries to the gastrointestinal tract. Based on an increasing volume of incidents in  
19 toddlers and young children requiring surgical intervention, some of which ended in death, the  
20 Consumer Product Safety Commission (CPSC) issued a proposed rule in September 2012 to  
21 establish new requirements for particle size and magnetic power for magnet sets.<sup>1</sup> Subsequent  
22 CPSC analysis of incidents reported through the National Electronic Injury Surveillance System  
23 estimated that 2,900 emergency-department visits related to possible magnet set ingestion occurred  
24 from 2009-2013.<sup>2</sup>  
25

26 Under the proposed rule, magnets that fit within the “small parts cylinder” that CPSC uses in its  
27 method for identifying toys which may be a hazard for choking, aspiration, or ingestion in children  
28 3 years of age or less, would be required to have a magnetic flux<sup>a</sup> index of 50 (kG)<sup>2</sup> mm<sup>2</sup> or less.  
29 Also, in May 2012, compliance staff at CPSC contacted established independent importers of

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<sup>a</sup> Magnetic flux is the product of the average magnetic field times the perpendicular area that it penetrates. The gauss, abbreviated as G or Gs, is the unit of measurement of a magnetic field; one kilogauss is abbreviated kG. The magnetic flux index is a measure of magnetic force which is used in national and international toy standards. The notation for magnetic flux index is kG<sup>2</sup> mm<sup>2</sup>.

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1 magnet sets, and all but two agreed to cease importation, distribution and sale of magnet sets; only  
2 one importer remains that continues to market and sell magnet sets.

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4 FINAL RULE

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6 After a lengthy comment period and further deliberations, CPSC issued a final rule under the  
7 Consumer Product Safety Act “establishing requirements for magnet sets and individual magnets  
8 that are intended or marketed to be used with or as magnet sets.” Under the rule, “if a magnet set  
9 contains a magnet that fits within the CPSC’s small parts cylinder, each magnet in the magnet set  
10 must have a flux index of  $50 \text{ (kG)}^2 \text{ mm}^2$  or less.” Accordingly, under the new CPSC performance  
11 standard, an individual magnet from a magnet set either must be large enough that the magnet does  
12 not fit into a CPSC small parts cylinder or the power of the magnetic force must be lower than the  
13 new standard.

14

15 The “rule applies to high-powered magnet sets and to individual magnets that are marketed or  
16 intended for use as part of a magnet set.” Magnets manufactured, imported, distributed, or sold on  
17 or after the April 1, 2015 that do not meet the new performance standard will be illegal.<sup>2</sup>

18

19 RECOMMENDATION

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21 Given that the Resolve in Resolution 411-A-14 has been accomplished, the Council on Science and  
22 Public Health recommends that Resolution 411-A-14 not be adopted and the remainder of the  
23 report filed.

Fiscal Note: Less than \$500

REFERENCES

1. Consumer Product Safety Commission. Safety Standards for Magnet Sets. 16 CFR Part 1240. Notice of Proposed Rulemaking. *Fed Reg.* 2012;77(171):53781-801.
2. Consumer Product Safety Commission. Final Rule: Safety Standard for Magnet Sets. 16 CFR Part 1240. *Fed Reg.* 2014;79(192):59962-89.