

## An attractive approach to magnets adherent across the nasal septum

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### ABSTRACT

We report a case of an 8-year-old boy who presented to the emergency department with small jewelry magnets adherent across his nasal septum. Prompt removal of these foreign bodies is important to avoid septal necrosis and perforation. We report our success in using the metal handle of bayonet forceps to break the attraction between the magnets. The magnets were removed painlessly and without trauma to the nasal septum.

**Key words:** foreign bodies, nose, emergency department

### RÉSUMÉ

Nous présentons le cas d'un garçon âgé de huit ans reçu à l'urgence avec des bijoux aimantés de petite taille adhérent à sa cloison nasale. L'extraction rapide de ces corps étrangers est importante afin d'éviter la nécrose et la perforation de la cloison nasale. Nous décrivons le recours à la poignée de métal de forceps baïonnette pour briser l'attraction entre les aimants. Les aimants furent extraits sans douleur et sans traumatisme à la cloison nasale.

### Introduction

Toddlers and preschoolers often place foreign objects in their noses; school-aged children do so less often.<sup>1-3</sup> However, a recent phenomenon — imitation body piercing with magnet-backed jewelry — has become popular in older children and may lead to an increasing incidence of school-aged children presenting to the emergency department (ED) with nasal foreign bodies (Fig. 1).<sup>4</sup> When these children attempt to imitate bilateral nasal piercing with magnet-backed jewelry, the intranasal magnets may attract each other and become adherent across the nasal septum, resulting in substantial pressure on the nasal septum and its delicate capillary network (Fig. 2).<sup>5-9</sup> This places the child at risk for septal ischemia, necrosis and perforation, with

the degree of injury being time sensitive.<sup>4</sup> There are a few cases in the literature of other types of bilateral nasal foreign bodies,<sup>10</sup> but direct septal pressure related to bilateral nasal magnets appears to be a unique mechanism of injury. We report a case of nasal magnets adherent across the nasal septum and our successful management approach.

### Case report

An 8-year-old boy had attempted to place magnet-backed earrings bilaterally on his lateral alar cartilage. According to the patient, the first earring was placed without difficulty. However, upon attempting to place the second earring, the 2 magnets became attracted to each other across his nasal septum and the outer portions of the earrings

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Photos by Lance Brown

**Fig. 1.** A 5-year-old girl with a right-sided magnetic nose stud. She reported that the stud was painless upon placement and when worn. She was able to remove the stud by herself without difficulty or discomfort.



**Fig. 2.** A 3-year-old boy demonstrating that the 2 parts of a magnetic earring are strongly attracted to each other when placed on the dorsum and palmar surfaces of his index finger

promptly fell off. The patient had immediate pain, informed his parents, and was brought to the emergency department (ED), where he was seen within 30 minutes of the event.



**Fig. 3.** A 7-year-old girl demonstrating the proper orientation of the bayonet forceps (“backwards”) for nasal magnet removal

In the ED, he appeared minimally uncomfortable, with obvious metallic foreign bodies adherent to the nasal septum bilaterally. To assess the degree of magnetic adherence, the distal edge of one of the magnets was lightly tapped with a plastic ear curette. This caused the patient extreme pain, and he started to cry. Attempting to take advantage of the magnetic properties of the foreign bodies, the flat metal handle of nasal bayonet forceps was introduced into one nostril — essentially using the forceps “backwards” (Fig. 3). No click or movement of the forceps was noted, and the patient experienced no pain. Upon withdrawing the forceps, it was noted that the ipsilateral magnet was adherent to the handle and was removed without difficulty as the forceps were withdrawn. Repeating the same process on the other side removed the second magnet painlessly. The septum appeared normal on repeat examination. There was no bleeding. The patient was discharged home.

## Discussion

We identified 7 case reports of magnets adherent across the nasal septum, with the first published in 1998.<sup>4,9</sup> Two of these cases resulted in nasal septum perforation; in both, removal was delayed several hours.<sup>6,8</sup> McCormick and colleagues reported 24 cases of magnetic foreign bodies seen during an 8-week period in 2000.<sup>4</sup> Eleven cases involved the nose, but only 1 clearly involved the nasal septum. These authors noted that areas of pressure necrosis became apparent around magnets, even if removal was delayed “only a few hours.”<sup>4</sup>

In the 7 case reports of magnets adherent across the nasal septum, techniques for foreign body removal were not al-

ways clearly described. In 1 case involving a 12-year-old girl, the physicians polarized a wax hook by rubbing it with another instrument and then used the magnetic forces of the polarized wax hook to attract one of the magnets and remove it.<sup>7</sup> In another case of a 12-year-old girl, the physicians used nasal bayonet forceps by introducing one prong of the forceps into each nostril. The magnets became attracted to the forceps and were simultaneously removed.<sup>5</sup> Forceps were used with prompt success in another case involving a 10-year-old girl.<sup>9</sup> In 2 cases, the magnets were removed under general anesthesia, and 1 of these procedures was delayed 36 hours “due to unavoidable circumstances,” possibly contributing to necrosis of the nasal septum.<sup>8</sup>

## Conclusion

As children experiment with magnet-backed jewelry, further cases of bilateral nasal magnets adherent across the nasal septum will present to EDs. Our experience and our review of the literature suggest several general principles. The risk of ischemic injury to the septum (including perforation) is time dependent, and pressure necrosis begins within hours. Unlike children with other nasal foreign bodies who can be referred to specialty clinics the next day, magnets adherent across the nasal septum should be treated as an urgent medical condition and managed definitively in the ED. Manipulating the magnets by means that do not take advantage of the magnetic forces causes significant pain and has a low likelihood of success unless the patient is sedated or anesthetized. By inserting metal forceps into the nasal passage, the magnets will most likely

become attracted to the metal and be withdrawn easily. In the case described here, this method was painless, cost effective, required no special equipment or sedation, and was performed rapidly, minimizing the risk of injury to the nasal septum. We recommend this simple approach to nasal magnets adherent across the nasal septum.

**Competing interests:** None declared.

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