

# Management of Pediatric Septal Perforation:

## Lithium Battery Causing Septal Perforation/Nasal Septum Repair/Septal Perforation Surgery

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### Clinical Challenge

Septal perforations can arise from a variety of injuries to the nose. In the pediatric population children placing small objects in the nose is a common cause of injury to the nasal septum. In this case a lithium battery from a small toy was placed in the nose. The battery went undiagnosed for three days and began to leak, eroding through the septum lining and cartilage, leaving the child with a septal perforation.

### Surgical Considerations

In the pediatric population reconstructive nasal surgery is typically delayed for as long as possible to allow the nasal structures to fully develop. Operating too soon is thought to potentially adversely effect the growth centers of the face which could lead to further nasal deformity in adult life. Although reports are conflicting, it is generally accepted that the safer route is to wait until a patient has completed puberty before operating on the nose, save for emergency or urgent conditions where the benefits may outweigh the risk.

### Clinical Results

Septal perforations that are asymptomatic and stable in size can generally be managed medically in the pediatric population. Surgery is reserved for larger, symptomatic perforations or for those that have failed medical management. A closed endonasal approach is preferred versus the open rhinoplasty technique. Whether medical or surgical management is chosen close follow-up is mandatory to achieve the best outcome for the patient.

### Surgeon Comments

Dr. Hamilton – *“Batteries pose a significant danger to the airway and the gastrointestinal tract of children, and although it may be impossible to prevent children from placing objects in the nose, batteries should be managed vigilantly in the household. Best practices for parents are to avoid toys that function on small lithium batteries altogether. If toys are not in use regularly the batteries should be removed as they tend to corrode overtime and may pose a danger to children even if not directly ingested. Any suspicion of an ingested battery or foreign object in the ear canal of nose should promptly be investigated by a physician. If the battery is not located by physical exam and x-ray is mandatory to rule out a hidden battery.”*

Dr. Jason Hamilton is the Director of Plastic and Reconstructive Surgery for the Osborne Head and Neck Institute, and is double board certified by the American Board of Facial Plastic and Reconstructive Surgery and the American Board of Otolaryngology/Head and Neck Surgery. Dr. Hamilton is one of only handful of septal perforation specialist worldwide

For more information on the deviated septum, septoplasty, functional rhinoplasty and septal perforation repair by Dr. Jason Hamilton, septal perforation specialist, please contact the Osborne Head and Neck Institute or visit [www.perforatedseptum.com](http://www.perforatedseptum.com).



Figure 1: X-ray imaging of the head and neck demonstrating a button cell battery within the nasal cavity.



Figure 2: Example of a button or coin battery.

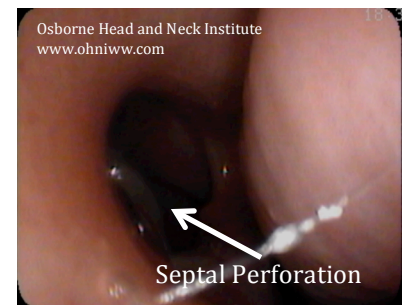


Figure 3: Nasopharyngoscopy demonstrating a nasal septum perforation in a pediatric patient.

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