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# Ingestion of Numerous Foreign Objects Managed Conservatively with Bowel Regimen

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**Abstract** **Case Report**

A 19-year-old male with history of depression, cannabis use, and tobacco use presented to the hospital a few days after ingesting an unspecified number of nails, cylindrical batteries, coins, and BB gun pellets. On presentation, he was hemodynamically stable and denied any abdominal symptoms. In addition, his physical examination was benign. The patient was managed with a bowel regimen consisting of scheduled docusate sodium, lactulose, polyethylene glycol powder, and senna. He also received polyethylene glycol solution on several days. The patient was able to pass all of the nails, batteries, and coins prior to discharge. Some BB gun pellets remained at the time of discharge, but they were considered low risk for perforation. Our case illustrates that a suitable bowel regimen, rather than surgical or procedural intervention, can be used in certain situations to manage foreign object ingestions.

**Keywords:** Foreign body ingestion, bowel regimen, conservative management.



## INTRODUCTION

Consumption of foreign bodies is more common in children than in adults [1]. Approximately 75% of cases involving foreign body ingestion happen in individuals who are less than five years of age [2]. In adults, approximately 92% of cases of foreign body ingestions are intentional [3]. Foreign object consumption in adults typically involves individuals who are affected by psychiatric conditions, elderly, intoxicated, or incarcerated [1]. The intention behind the foreign body ingestion can include self-harming behaviors, intent to commit suicide, trafficking of illicit substances, or truly accidental ingestions [1]. Individuals who repeatedly consume foreign bodies likely have an underlying psychiatric condition [1]. Approximately 85% of individuals who have repeated foreign body ingestions have an underlying psychiatric condition [3]. Factors influencing conservative management versus procedural or surgical intervention include the type of foreign body consumed, location of the foreign body, and whether the individual is experiencing symptoms [4]. With this case, we demonstrate using scheduled bowel regimen to manage an individual who ingested numerous foreign bodies including nails, coins, cylindrical batteries, and BB gun pellets.

## CASE PRESENTATION

A 19-year-old male with history of depression, cannabis use, and tobacco use presented to the emergency department three days after ingesting an unspecified number of nails, coins, cylindrical batteries, and BB gun pellets. On presentation, his blood pressure was 107/67 mmHg, heart rate was 111 beats per minute, and his oxygen saturation was 97% on room air. His hemoglobin at presentation was 12.7 g/dL. On physical examination, his abdomen was soft, flat, and non-tender. He denied nausea, vomiting, hematemesis, abdominal pain, and hematochezia. The initial abdominal x-ray demonstrated innumerable foreign objects that had passed though the stomach and were located throughout the remainder of the abdomen and pelvis (Figure 1). Both the gastroenterology and surgery teams evaluated the patient and advised against pursuing any immediate intervention. The patient was started on a bowel regimen consisting of 200 mg of docusate sodium twice daily, 20 g of lactulose thrice daily, 17 g of polyethylene glycol thrice daily, and 17.2 mg of senna twice daily. He also consume 4L of polyethylene glycol solution on the fourth, fifth, eighth, tenth, thirteenth, twelfth, and twenty-third days after presentation.


**Figure 1: Initial X-ray**

The patient had daily bowel movements, but passage of foreign objects were only documented in the electronic health record on certain days. On the sixth day after presentation, he passed multiple nails, a battery, and many coins. On the tenth day after presentation, he passed 11 coins and 2 nails. On the twelfth day after presentation, he passed several nails. On the twenty-seventh day after presentation, he passed the final nail. He was subsequently discharged to another facility for additional care prior to returning home. At the time of discharge, the patient had some BB gun pellets remaining in his system (Figure 2). However, these items were unlikely to cause perforation; thus, the he was deemed appropriate to discharge to a facility. The patient's ingestion of multiple objects was successfully managed using bowel regimen rather than surgical or procedural interventions.

**Figure 2: Final X-ray**

## DISCUSSION

In patients presenting with foreign body ingestion, it is important to conduct history taking and physical examination [4]. When radiopaque or unknown objects are ingested, plain radiographs are recommended to be obtained [4]. When perforation is suspected or surgical intervention may be required, imaging with computed tomography should be obtained [4]. In patients who have consumed blunt objects, other than batteries and magnets, observation may be sufficient [4]. Depending on the type of object and its location, esophagogastroduodenoscopy may be needed to remove the object [4].

Approximately 80% of foreign objects pass through the digestive tract; however, 20% of cases involved the object remaining in a narrow portion of the digestive tract [2]. Conservative management, treating

the patient without procedural or surgical intervention, can be used in certain cases [2].

Although, one study showed that approximately 76% of adults who ingested foreign bodies underwent endoscopy and 11% underwent surgical intervention [5]. Emergent removal of objects should be undertaken if the foreign object is located in the upper one-third of the esophagus, complete obstruction is noted, or if the object consumed is sharp or a button battery [2].

In cases of food bolus impaction, it is important to pursue treatment quickly if the individual is not able to swallow saliva [2]. Otherwise, it is recommended to pursue treatment within 12-24 hours; although, treatment within 6 hours is considered to be safer [2]. If the ingested foreign body is sharp or pointed, urgent endoscopic removal should be pursued if the object can be accessed [2]. In these cases, usage of retrieval forceps and nets or polypectomy snares can be helpful; in addition, "protective devices" can also be used to decrease the likelihood of perforation [2]. The sharp piece of the object can follow the endoscope or face upwards [2]. If the sharp object does not move for three days, surgical intervention can be considered [2]. Due to the risk of perforation, foreign bodies greater than 2-2.5 cm or longer than 5-6 cm should be removed prior to moving past the pylorus [2]. Endoscopic intervention assisted with devices such as retrieval forceps, nets, and polypectomy snares can be used in these cases [2]. If coins are the foreign object consumed, they should be removed if there is esophageal impaction [2]. If the coin size is greater than 20 mm or does not exit the stomach within 3 days, removal is warranted [2]. Endoscopic intervention with assistance from forceps can be useful in removing coins [2]. Consumption of cylindrical batteries is considered uncommon as it is seen in approximately 0.6% of cases [2]. If the cylindrical battery fails to exit the stomach after over 24 hours, it should be removed; endoscopic intervention with the assistance of retrieval nets can be used to assist with the removal [2]. In cases where individuals consume balloons or latex condoms containing drugs, endoscopic removal is not advised due to the risk of package breakdown [2]. These individuals should be conservatively managed, monitored with serial radiographs, and referred for surgical intervention if there are concerns for impaction or failure of the objects to move through the digestive tract [2].

There can be complications associated with foreign body ingestions [2]. These include passage of the foreign body through the wall of the digestive tract, perforation, infection, impaction, and fistula formation [2]. Generally, severe consequences of foreign body ingestions happen prior to endoscopic intervention [2]. The overall complication rate of endoscopy is approximately 0.13-0.24% [6].

Our case is unique since the individual consumed numerous foreign bodies and did not require any procedural or surgical intervention. He was successfully managed with a rigorous bowel regimen.

## CONCLUSION

Foreign body ingestion in adults typically happens in individual with underlying psychiatric history, or those who are elderly, intoxicated, or incarcerated. Most ingestions are intentional, but some can be genuinely accidental. Management with conservative measures or interventions depends on the type of object consumed, symptoms experienced, and location of the object in the digestive system. Generally, complications tend to happen prior to endoscopic intervention. With this case, we illustrate successful conservative management of an individual who ingested numerous foreign bodies.

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## REFERENCES

1. Tambakis, G., Schildkraut, T., Delaney, I., Gilmore, R., Loebenstein, M., Taylor, A., ... & Holmes, J. (2023). Management of foreign body ingestion in adults: time to STOP and rethink endoscopy. *Endoscopy international open*, *11*(12), E1161-E1167. doi: 10.1055/a-2201-6928.
2. Becq, A., Camus, M., & Dray, X. (2021). Foreign body ingestion: dos and don'ts. *Frontline Gastroenterology*, *12*(7), 664-670. doi: 10.1136/flgastro-2020-101450.
3. Hoey, P., Ryan, K., McDonald, C., Brown, N. J., Boon, K., Grimpen, F., & Appleyard, M. (2024). Repeated intentional foreign body ingestion, what can be done?. *Emergency Medicine Australasia*, *36*(4), 659-661. doi: 10.1111/1742-6723.14451.
4. Birk, M., Bauerfeind, P., Deprez, P. H., Häfner, M., Hartmann, D., Hassan, C., ... & Meining, A. (2016). Removal of foreign bodies in the upper gastrointestinal tract in adults: European Society of Gastrointestinal Endoscopy (ESGE) Clinical Guideline. *Endoscopy*, *48*(05), 489-496. doi: 10.1055/s-0042-100456.
5. Kapalu, C. M. L., Ibrahimi, N., Mentrikoski, J. M., & Attard, T. (2020). Pediatric recurrent intentional foreign body ingestion: case series and review of the literature. *Journal of pediatric gastroenterology and nutrition*, *71*(2), 232-236. doi:10.1097/MPG.0000000000002757
6. Newcomer, M. K., & Brazer, S. R. (1994). Complications of upper gastrointestinal endoscopy and their management. *Gastrointestinal Endoscopy Clinics of North America*, *4*(3), 551-570.