

# An Arrow in the Maxillary Sinus

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## SUMMARY

We experienced the case of a patient who had a foreign body in the maxillary sinus. The foreign body was an arrow accidentally triggered by the patient while fishing. The foreign body was removed via the Caldwell-Luc approach.

## KEY WORDS:

Foreign body, Maxillary sinus, Arrow

## INTRODUCTION

Foreign-bodies are routinely encountered in ENT practice and metal foreign bodies are occasionally found in the sinuses. Most literature reports cases in which the foreign body was of dental origin, war injury or accident<sup>1</sup>. Since mid 80s due to the development of techniques using osteointegrated implants to treat edentulousness, the complication of malpositioning of metal fixtures within the maxillary sinus has become very common<sup>2</sup>. The Caldwell-Luc procedure is the classic surgical technique used for the removal of foreign bodies within the maxillary sinus. It involves opening of anterior wall of the maxillary sinus<sup>3</sup>. Our patient presented with an arrow that was accidentally triggered while fishing, piercing the cheek and lodged within the maxillary sinus.

## CASE REPORT

A 40 year old Orang Asli (aborigine) presented to the emergency department with an arrow that was piercing into his left maxillary sinus. Upon review, he gave history of a

self-triggered arrow-gun that had slipped and released straight into his left cheek while he was fishing. Surprisingly, he presented with only minimal pain with no history of bleeding, blurring of vision or any nasal symptoms. Clinical assessment revealed, a rusty arrow, about 15cms long piercing into his left maxillary sinus region at the level of the tip of nose corresponding to the mid-pupillary line. Radiological examination showed an arrow lodged into the left maxillary sinus (Figure 1) and abutting its posterior wall (Figure 2). Caldwell-Luc procedure was performed on the same day under general anaesthesia and the arrow was removed. Post-operative recovery was unremarkable. The patient has been free from complication for more than 18 months now.

## DISCUSSION

The maxillary sinus is the largest paranasal sinus in the human body, within the body of the maxilla. It is previously known as the maxillary antrum (of Highmore). Various foreign bodies have been reported in the maxillary sinus<sup>1,2,4</sup>.

Surgical approaches to the sinus include approach through the lateral wall of the nose at the inferior meatus and through the vestibule of the mouth at the canine fossa of the maxilla. The latter is also known as the Caldwell-Luc approach. It is done via an incision above the gum of the upper jaw (sublabial) and removing a small amount of the bone which forms the anterior wall of the maxillary sinus<sup>3</sup>. This procedure was the mainstay in the treatment of chronic maxillary sinusitis until the development of the sinus



Fig. 1: X-ray AP view showing an arrow lodged in the left maxillary sinus.



Fig. 2: X-ray Lateral view showing an arrow lodged in the left maxillary sinus and abutting the posterior wall.

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endoscope. There are numerous indications for this procedure including removing foreign bodies from within the maxillary sinus cavity<sup>5</sup>.

In our case, considering the length and the hooked ends of the arrow, the appropriate way for removal would be by the Caldwell-Luc approach. The arrow was cut into half to facilitate removal. The sublabial incision was closed and patient discharged home the next day. It would have been difficult to remove this arrow endoscopically, considering the length and the hooked ends of this arrow. On subsequent follow-up, patient was well without any potential risks of Caldwell-Luc surgery like scarring which can lead to sinus infections, injury to the infraorbital nerve responsible for sensation to the skin of the cheek, dental injury or facial pain.

## CONCLUSION

We experienced a situation whereby a patient walked into the emergency department with an arrow accidentally triggered while fishing. The foreign body was lodged in the maxillary sinus and was removed via the Caldwell-Luc approach with no subsequent complications. Therefore the Caldwell-Luc procedure should remain in the surgical repertoire for an ENT surgeon to deal with difficult cases of foreign bodies which cannot be removed endoscopically.

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