

# Simultaneous use of GlideScope® in emergency department: A case report

### ABSTRACT

The GlideScope® is a videolaryngoscope manufactured by Verathon Medical (Bothell, WA, USA), now widely used to manage planned or unexpected difficult orotracheal intubation situations. According to the current literature, GlideScope® has been used for surgical procedures involving the tongue base, such as biopsies and radiofrequency treatment of obstructive sleep apnea. We describe a case of dual use of GlideScope for pointed foreign body removal in an emergency department.

**Key words:** Difficult Intubation, foreign body aspiration, GlideScope, laryngeal surgery, pharynx, videolaryngoscopy

### Introduction

GlideScope® (Verathon Medical, Bothell, WA, USA) is a recently developed videolaryngoscope, which allows easier airway management in difficult scenarios, such as neonatal intubation, management of morbidly obese patients, or restricted view of the laryngeal inlet.<sup>[1,2]</sup> This device can be useful for several clinical situations due to its particular features: (1) multiple sizes are available; (2) it is possible to use in preterm/small children; (3) video recording capabilities that make it suitable for academic purposes.

While videolaryngoscopy has proven effective in achieving a better view of the glottis, the success rate of intubation seems to be essentially equal to conventional direct laryngoscopy (DL): for this reason, at present, GlideScope® is currently recommended with strong evidence

only as a rescue choice after a failed intubation attempt using DL.<sup>[3]</sup>

GlideScope® can also be helpful for other scenarios of upper airway management.

According to the current scientific literature, GlideScope® has been used for examination and biopsies of the tongue base and radiofrequency treatment of obstructive sleep apnea.<sup>[4]</sup>

In this case report, we want to report its contemporary use: airway management and foreign body removal.


### Case Report

In October 2023, a 60-year-old woman with a previous history of hypertension, was presented to the emergency

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department after swallowing a dental drill bit during dental treatment.

The patient complained of coughing, vocal hoarseness, and a strong sensation of pain at the mid-neck level. She appeared to be in severe discomfort and had difficulties completing sentences. The oropharynx was hyperemic, with signs of lacerations, abrasions, and edema.

Urgent otolaryngological consultation was performed which, by flexible fibroscopy, revealed the presence of the foreign body in front of the aditus ad larynx.

Given the high risk of aspiration of the sharp foreign body and the real possibility of trachea-esophageal fistula and pneumomediastinum, we activated the emergency operating room for foreign body removal in a protected setting.

After preparation of the emergency airway equipment, the patient underwent general anesthesia (to secure the airway) with Rapid Sequence Intubation (to minimize the risk of foreign body aspiration and mobilization) using the GlideScope® videolaryngoscope [Figure 1].

Given the copious secretions at the time of glottic visualization, gentle aspiration with a soft catheter was performed simultaneously, and better visualization after aspiration revealed the presence of the foreign body.

Using Magill's forceps, we removed the foreign body under visualization of the VGL.

No hemostasis was required [Figure 2].



**Figure 1:** GlideScope® videolaryngoscopy image of a dental drill bit in front of the vocal cords. Note the difficulty of intubation due to the high risk of foreign body dislodgement

On awakening, resolution of vocal hoarseness was noted, and the patient described immediate resolution of symptoms. A subsequent fiberscope examination revealed a normal nasopharynx, tongue base, and epiglottis. The ary-epiglottic fold and arytenoids were noted to be slightly swollen with erythema, and a soft diet was recommended at the patient's discharge, with otolaryngologic follow-up as needed.

## Discussion and Conclusion

Foreign body migration into the pharynx is one of the most frequent anesthesiologic emergencies and can result in very serious complications such as forced aspiration, tissue perforation, partial or complete airway obstruction, laryngospasm and death.

The GlideScope® videolaryngoscopy device is frequently helpful in airway management, especially in achieving a better view of the glottis in difficult intubations.

Numerous studies in the literature have shown how GlideScope® can be used to perform surgical procedures; few, however, describe its use for the removal of foreign bodies in the hypopharynx.<sup>[5]</sup>

In this case report, we want to report its dual and simultaneous use on the same patient in an emergency situation.

The use of the GlideScope® allowed us to secure the airway and at the same time proceed with foreign body removal under vision (real time).

What we describe could be a starting point for clinical trials and for the development of standardized protocols for the management of one of the most common situations in emergency departments.



**Figure 2:** Dental drill bit removed with Magill's forceps

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Nil.

### Conflicts of interest

There are no conflicts of interest.

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