

## Nursing Forum Editorial Board

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## Tongues, Tubes, and Teens *Body Piercing and Airway Management*

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**B**ody piercing and tattooing are absolutely nothing new. Archaeologists have found evidence of these practices dating back several thousands of years. Although body piercing and modifications have been performed for more than 5000 years, it is seemingly only relatively recently that it has become an epidemic, especially among our adolescent patients.<sup>1</sup> These facts are coupled with recent studies which revealed that up to 51% of those younger than 21 years had something pierced besides their ears.<sup>2,3</sup> In the pediatric emergency care setting, airway management can be required for various medical and traumatic conditions. However, when the patient has oral or facial jewelry, the controversy now revolves around “to remove or not to remove” the jewelry (especially in the tongue) before intubation. Whereas the adverse dental effects of oral jewelry, such as “wrecking

ball fractures” and gingival recession, are well documented in the medical literature,<sup>4,5</sup> this article will specifically summarize case reports regarding body jewelry and nasal/oral intubation, as well as implications for pediatric emergency care.

### NASAL INTUBATION

Our review of the literature found only 2 articles which detail adult patients who were nasally intubated with nasal jewelry in place and one other article which describes oral intubation in the presence of nasal jewelry.

### Nasal Intubation Case Report

An adult patient was undergoing elective dental surgery and knew that the anesthesiologist was going to ask him to remove his nasal jewelry. Because of concerns about hole closure, he put a matchstick in the tract, darkened the tip for cosmetic effect, but neglected to inform the anesthesiologist about his new “jewelry.” He was then nasally intubated, and to the understandable surprise of the anesthesiologist, the matchstick popped out of his nose. “Patients who have undergone the pain and expense of body piercing may be heavily invested in maintaining their ornamentation. When they subsequently require anesthesia, efforts to conceal the deformity may further increase the risks of airway compromise and aspiration.”<sup>6</sup>

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## Nasal Intubation Case Report

An adult patient was undergoing elective oral surgery and required nasal intubation. On physical examination, she was found to have an obstructed left naris and jewelry in the right naris. The patient refused to remove the jewelry, so the anesthesiologist taped the jewelry in place. At the completion of the operative procedure, the tape was removed, but the jewelry was found to be missing. Chest radiographs and bronchoscopies were done, and despite the tape on the side of the nose, the jewelry was found on the floor!<sup>7</sup>

## Oral Intubation With Nasal Jewelry Case Report

A young adult female patient was undergoing an emergency cesarean section, and a quick preoperative airway examination failed to identify the presence of nasal jewelry. She was orally intubated, and during emergence from anesthesia, the small piece of jewelry was noticed to be in her nostril. Unsure as to whether the jewelry had a backing or was worn without one, the patient was put back to sleep, and subsequent chest radiography and bronchoscopy were performed, along with a search of the operating room suite. After these efforts, the patient's mother was located and confirmed that the jewelry was worn without a backing. "We now ask presurgical patients with nasal or oral jewelry in situ to remove the hardware before surgery, if at all possible, for safety precautions. Clearly, the risks of airway bleeding, edema, and aerodigestive tract aspiration of loose jewelry pieces far exceed the benefit of maintaining cosmetic appearance."<sup>8</sup>

## ORAL INTUBATION

Much like being limited to the few cases that specifically detail the circumstances and outcomes associated with nasal intubation and jewelry, there are less than 15 articles specifically addressing cases of oral intubation and tongue jewelry.

## Oral Intubation Leaving the Tongue Jewelry in Place (No Complications)

It appears direct laryngoscopy and oral intubation can be accomplished safely in patients with tongue jewelry as long as one is cognizant of its presence and care is exercised during the procedure.<sup>9</sup>

## Summary of 4 Case Reports (Jewelry Remaining in Place)

A young adult with a tongue barbell was undergoing elective orthopedic surgery, for which a regional anesthetic was planned. However, shortly into the case, the patient required conversion to general anesthesia and was able to be bag-mask-ventilated without difficulty. The same author details another young adult, who, like the previous patient, refused to remove her facial jewelry. The patient's nose and tongue piercings were left in situ, and oral intubation was performed without difficulty.<sup>10</sup> In the same manner, bag-mask ventilation/uneventful oral intubation of an adolescent and an adult patient with tongue piercings

and successful laryngeal mask airway placement have also been described, with the jewelry remaining in place.<sup>9,11</sup>

## Complications With Oral Intubation and Tongue Jewelry

Whereas several articles detail successful bag-mask ventilation, laryngeal mask airway placement, and oral intubation with tongue jewelry in situ, there are 2 cases reported which detail the hazards of oral intubation with keeping the jewelry in place and one which details prolonged bleeding after piercing.

## Case Report (Bleeding)

A young adult obstetric patient underwent emergency postpartum surgery, and time constraints did not allow for removal of the oral jewelry. Intubation was able to be performed on the first attempt; however, direct laryngoscopy caused significant bleeding from the piercing site. The bleeding was controlled with direct pressure; however, during the case, the tongue swelled resulting in a near miss for a cannot intubate/cannot ventilate situation. The anesthesia authors state that "in conclusion, when airway management in presence of oral jewelry is indicated, trauma to highly vascular oral tissue, edema, bleeding, aspiration of loose hardware, airway obstruction, and difficult intubation should be anticipated."<sup>12</sup>

## Case Report (Bleeding and Jewelry in Place)

In the same manner, an adult patient underwent oral intubation for elective gynecologic surgery. She removed all jewelry before the procedure, but stated that she was unable to remove her tongue jewelry. Anesthesia provider was later called to the postanesthesia care unit for this patient with laryngospasm and heavily bloodstained secretions. The spasm was resolved with bag-mask ventilation, and an examination of the oral cavity revealed a very small tear next to the tongue barbell. "This case begs the question as to whether we should be anaesthetizing patients with tongue studs in situ when airway instrumentation is unavoidable, and therefore potential disruption of such foreign bodies is a potential hazard."<sup>13</sup>

## Case Report (Bleeding and Jewelry in Place)

Finally, a previously healthy adolescent male subject self-pierced his tongue and experienced continuous bleeding for 4 days. Bleeding is rare in midline tongue piercings as the lingual arteries and veins are generally found on the lateral aspect of the tongue. Under local anesthesia in the emergency department, a hematoma and necrotic area were repaired, and he had an uneventful recovery.<sup>14</sup>

## Case Reports (Infections and Airway Issues)

A 13-year-old male adolescent attempted self-piercing of his tongue with a needle and metal rod several days before presenting to the emergency department with a lingual abscess. As there was no respiratory distress, airway management was not attempted in the emergency department, and the patient was fiberoptically intubated in the

operating room without difficulty. The tongue metal rod was removed by the patient before arriving to the emergency department.<sup>15</sup> Also of note, whereas not specifically describing the intubation itself, 1 article details an adult patient who, after undergoing tongue piercing 4 days prior, developed Ludwig angina requiring intensive care for several days.<sup>16</sup> Lastly, 48 hours after central tongue piercing, a male adolescent presented to the emergency department with respiratory distress and tongue edema. He was found to have a grossly enlarged tongue with a barbell in place. The jewelry was removed with difficulty, antibiotics and steroids were administered, and after fiberoptic evaluation of the airway, he was admitted to the critical care unit. Intubation was not required, and he was discharged home 3 days later “minus the tongue bar.”<sup>17</sup>

### Potential Jewelry Aspiration

In the medical literature, there are several articles which detail other common facial piercings in areas such as the lips, cheeks, and eyebrows. They summarize potential issues such as inability to bag-mask ventilate because of a poor seal and possible tracheal aspiration of jewelry. However, in the reviewed articles, there are no documented cases of these complications actually occurring.<sup>18–21</sup>

Unless the piercing is well established, the track closes quickly, and it can be difficult or even impossible to reinsert. The sooner it is reinserted, the better. We need to consider this when asking patients to remove their jewelry in the department.<sup>22</sup>

### Maintaining Piercing Patency

According to professional piercers, the only reliable way to ensure that “the tract stays open is to keep something in it (personal communication, Elayne Angel, April 1, 2006).” With this idea in mind, several articles have described the use of retainers for medical procedures. The “IV exchange technique,” in which an intravenous catheter is used to “push out the jewelry,” is described by several authors in an attempt to replace metal navel jewelry with a nonferromagnetic/sterile intravenous catheter.<sup>23,24</sup> There are case report articles which describe the use of an epidural catheter to maintain the piercing tract patency (very expensive option) and the more cost-effective “thick suture tied in a loop option.” “Such a procedure can satisfy the anesthesia provider’s concern for safety and potentially spare the patient from having to undergo a second tongue piercing.”<sup>25</sup> Whereas there are “clear or flesh-colored” plastic retainers available for tongue jewelry, it is important to remember that these are not radiopaque and have an increased incidence of “coming apart.” With these facts in mind, some anesthesia professionals consider them to be a “hazard in or near the airway.”<sup>26</sup> For elective procedures during the preanesthetic evaluation, the option of retainers can be discussed with the patient.<sup>1,24–28</sup>

### When in Doubt... Take It Out? (or Not?)

A recent UK study found that only 6 of 28 attending emergency department physicians were able to describe the proper removal techniques for the 3 most common types of

body jewelry.<sup>29</sup> Especially if the practitioner is not familiar or comfortable with the proper removal techniques, leaving tongue jewelry in place should be considered as an option. Whereas some professionals feel adamantly that “all jewelry must come out” before intubation, others feel that if the person can walk, talk, sleep, and eat with a piercing in place, you can consider orally intubating them as well.<sup>8,9,12,28,30</sup> If there is an allergic reaction to the jewelry (especially common with items with nickel), removal of the jewelry should be done. However, in the case of a localized infection, jewelry removal can result in abscess formation, and the jewelry should remain in place to allow the infection to drain while the infection is being treated.<sup>17,22</sup>

In summary, the medical literature is divided as to the issue of removal of jewelry before airway management. Whereas most anesthesia providers recommend that “oral/nasal jewelry has to come out,” there are those who feel that a selective approach to removal of oral jewelry, along with possibly placing a retainer of some sort, is appropriate. However, if removal is to be undertaken, especially before oral intubation, the utmost care should be taken to minimize the risk of jewelry aspiration.

To acknowledge only ear lobe piercing as normal or acceptable segregates those others with piercings which are at present less frequently seen, but may become equally as popular in the future. Body modification will continue, and so acceptance by health professionals and society as a whole is essential if a reduction in complications is to be achieved.<sup>31</sup>

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