Managing Body Jewelry in Emergency Situations: Misconceptions, Patient Care, and Removal Techniques

Authors: Scott DeBoer, RN, MSN, CEN, CCRN, CFRN, Troy Amundson, EMT-B, and Elayne Angel, Chicago, Ill, Seattle, Wash, and New Orleans, La

Scott DeBoer is a Flight Nurse, University of Chicago Hospitals, Chicago, Ill, Founder of Peds-R-Us Medical Education & Med-Pierce, Dyer, Ind, and Medical Consultant for the Association of Professional Piercers. Troy Amundson is a Professional Body Piercer, Apocalypse Piercing, Seattle, Wash, and Consultant for Med-Pierce, Dyer, Ind.

Elayne Angel is a Professional Body Piercer and Owner of Rings of Desire, New Orleans, La.

For correspondence, write: Scott DeBoer, RN, MSN; E-mail: scott@peds-r-us.com.

J Emerg Nurs 2006;32:159-64.

0099-1767/$32.00

doi: 10.1016/j.jen.2006.01.002

CE Earn Up to 8 CE Hours. See page 203.

"If you think your patients aren't pierced, that's because you aren't looking!" These words of wisdom are shared by medical personnel who have special insight into the population of people with piercings. A recent study of undergraduate college students indicated that 51% of the students had something pierced besides their ears, while a 1999 study found that only 6 of 28 emergency physicians were able to accurately describe the proper removal process for the 3 most common types of body jewelry.[1,2] These 2 factors suggest the potential for problems in our emergency departments.

When in doubt, do not take the jewelry out! Being distracted by body piercings or wasting time trying to remove most jewelry can delay more important medical care.

Common concerns: airway, burns, and diagnostic imaging

AIRWAY MANAGEMENT

Invasive airway emergency procedures, such as laryngeal mask airway placement, bag-mask-ventilation, and even oral intubation usually can be done with tongue jewelry in place.[3-5] In some cases and especially with larger gauge (thicker) jewelry, removal of body jewelry is not only very time consuming but it may be nearly impossible without specialized tools, such as a hacksaw, ring cutters (commonly ineffective against surgical stainless steel), or some miniature variation of the "jaws of life."[6]

DEFIBRILLATION AND ELECTROCAUTERY

Urban legend suggests that when defibrillating a patient who is wearing nipple jewelry, the energy will arc across the jewelry and everyone will be electrocuted. However,

conventional defibrillation with paddles or pads can be performed on patients with any variety of piercings without undue risk to health care professionals, as long as the paddles or pads are not placed on the jewelry itself (D. Jordan, engineer, Philips Medical Systems, Seattle, Wash, personal communication, October 1, 2005).

Being distracted by body piercings or wasting time trying to remove most jewelry can delay more important medical care.

Similar unfounded beliefs exist concerning the use of electrocautery on people with metal body jewelry. If one avoids direct contact between the cautery tip, the cord, and the jewelry, once again, there is no evidence to support this concern.[6] However, if accidental contact occurs, heating of the jewelry may cause burns.[6]

Invasive airway emergency procedures, such as laryngeal mask airway placement, bag-mask-ventilation, and even oral intubation usually can be done with tongue jewelry in place.

DIAGNOSTIC IMAGING

For radiographic or magnetic resonance imaging (MRI) procedures, potential concerns are jewelry-induced artifacts as well as the potential attraction of the jewelry to the MRI magnet. However, discussions with radiologists have found that conventional radiographs and computed tomography scans often may be obtained without removing the jewelry, although additional radiographic views or changes in technique may be necessary (C. Straus, attending radiologist, University of Chicago Hospitals, personal communication, November 11, 2005).

Also, with the combination of quality, nonmagnetic body jewelry and simple pre-MRI screening with a handheld magnet to determine magnetic attraction status, an MRI can be obtained safely with nonmagnetic jewelry in place, resulting in surprisingly little artifact.[7,8]

If the jewelry is directly in the path of the area to be imaged (eg, an eyebrow piercing when the eye is to be scanned), or if an unacceptable artifact is present upon initial imaging, the jewelry may need to be removed.

Conventional defibrillation with paddles or pads can be performed on patients with any variety of piercings without undue risk to health care professionals, as long as the paddles or pads are not placed on the jewelry itself.

Considerations before removing body jewelry

The piercing site may bleed if it is a site of direct, acute injury, if it is a fresh piercing, or if it has been traumatized through procedures or unskilled removal attempts. If the jewelry can be left in place, leaving it alone will result in far less bleeding.

. . .conventional radiographs and computed tomography scans often may be obtained without removing the jewelry, although additional radiographic views or changes in technique may be necessary.

Removing the jewelry may make the situation worse. Imagine a supine, unconscious patient with a pierced tongue who is experiencing an anaphylactic reaction. Aggressive airway management is required with rapid sequence intubation. In those highly stress-filled moments before intubation, the physician hastily attempts to remove a slippery, saliva-covered piece of barbell jewelry. The jewelry comes apart, but part of it drops into the rapidly closing airway. Now, the critically ill patient with anaphylaxis also has a foreign body airway obstruction! In addition, if body jewelry is removed from an area with a pre-existing, localized infection, the infection may close and stop draining and an abscess might form.[3,6]

Considerations when removing body jewelry

Removing jewelry can be difficult, even for the most experienced piercers. Jewelry that is at least 5- to 9-mm

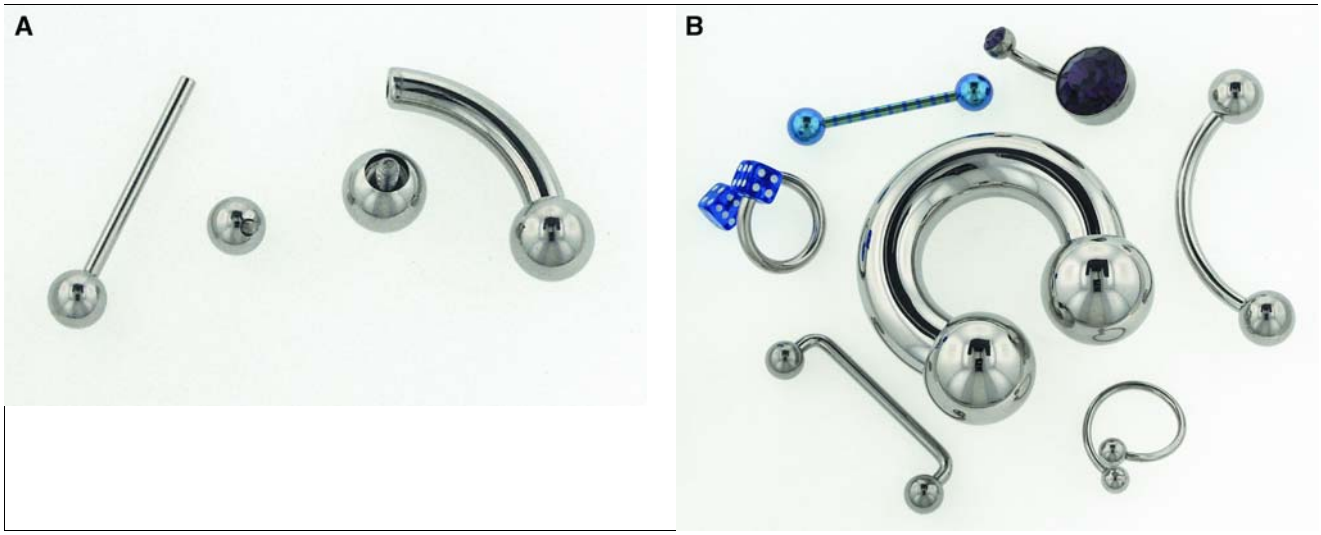

FIGURE 1
Open (A) and closed (B) straight, curved, and circular barbells are removed by unscrewing one of the ends of the jewelry. (Photo courtesy of Industrial Strength Body Jewelry.)

(3/16- to 3/8-inch) thick and made from surgical stainless steel or implant grade titanium is not easy to manipulate, even under the best of conditions and with the appropriate tools. Staff may attempt to cut through jewelry with a conventional ring cutter or a hacksaw if time, training, and the patient's condition permit.[9] However, some of this jewelry is large enough and strong enough to ruin a set of bolt cutters. Removing body jewelry, especially in high-stress emergency situations and without the proper tools, usually is not a quick procedure and can be nearly impossible. Cutting the jewelry also may leave sharp edges that can tear the tissue around the piercing during removal. Also, if the cutting tool or pliers slip, the patient may sustain additional injury.[9]

BLOOD AND BODY FLUID PRECAUTIONS

All jewelry worn in or through the body potentially is contaminated with blood or other potentially infectious materials and must be handled using standard precautions. Many pieces of jewelry could easily puncture a glove or skin, resulting in parenteral exposure to bloodborne pathogens. As with surgical tools, any equipment used to remove body jewelry must be resterilized before reuse.

If your patients are conscious, ask them how to remove their jewelry. If they are able and willing, the easiest option may be to ask them to remove the jewelry themselves. They may be hesitant because of fears of the holes "closing up" (a valid concern, even with healed piercings), but if removal is required, many times the patient is the "expert."[10,11] Several authors have detailed the "exchange" technique in which body jewelry is replaced temporarily with an intravenous catheter or thick suture that can be used to keep the piercing channel open if the jewelry must be removed.[10-12]

Items that may aid jewelry removal include sterile gauze, hemostats, surgical lubricant, and cotton swabs. In addition, ring-expanding pliers (RXPs) are necessary for removing large-gauge captive bead rings.[6,9] If possible, smooth jaw (not serrated) hemostats should be used to avoid scratching or burring the jewelry or damaging the tissue, particularly on fresh or injured piercings.

Common jewelry types and removal tips

In our experience, local professional piercers are happy to provide education and in-service sessions on commonly worn jewelry and suggested removal techniques.

BARBELLS

Barbells are a post with a fixture at both ends (see Figure 1). Most commonly, one or both ends will unscrew; however, the newer "press-fit" barbells pull apart from one end.

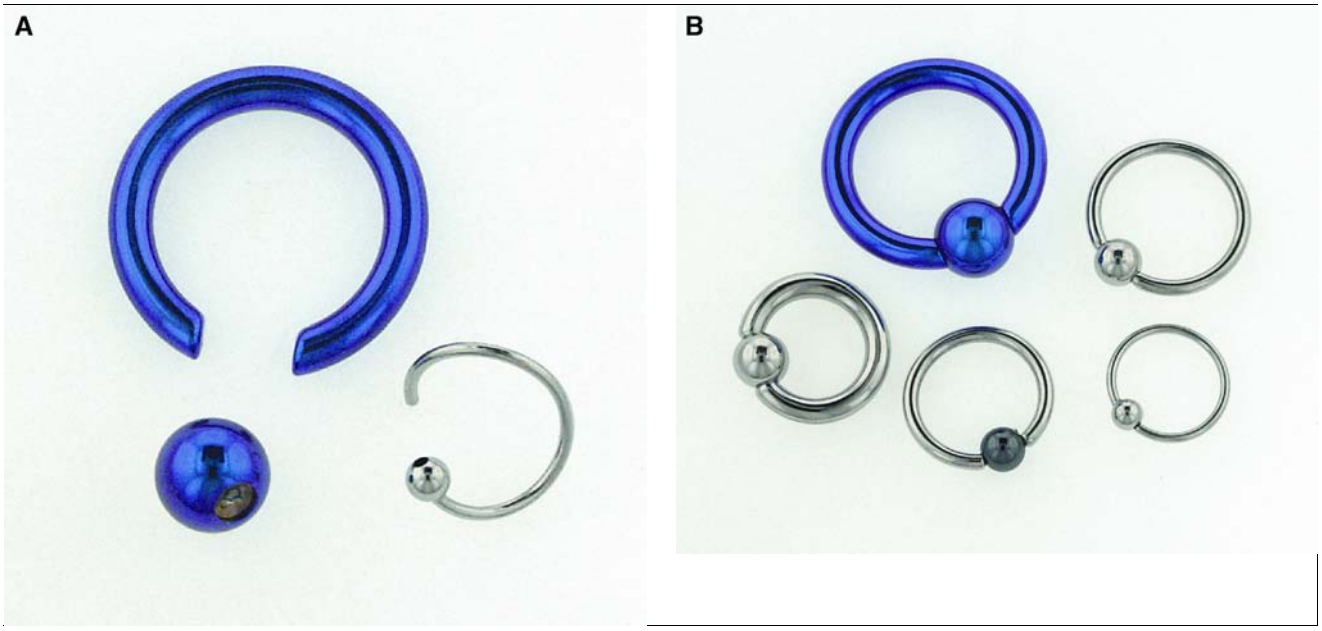

FIGURE 2
Open (A) and closed (B) captive bead rings. This type of jewelry usually is found in ear, eyebrow, nostril, septum, lip, nipple, navel, and genital piercings. (Photo courtesy of Industrial Strength Body Jewelry.)

Straight, bent/curved, or circular barbells are commonly found in ear lobe, ear cartilage, eyebrow, cheek, lip, tongue, nipple, navel, and genital piercings.

When removing barbells, gauze may help improve your grip on the jewelry if you are wearing gloves. If necessary, secure the jewelry with hemostats on the post between the ball and the tissue. Be careful not to use too much pressure because you may crimp the post, further complicating jewelry removal. Hold the tool close to the end of the jewelry to prevent injuring the patient if the clamps slip off, because you unscrew the ball with your dominant hand.

CAPTIVE BEAD RINGS

Captive bead rings, also referred to as "rings" or "hoops," are almost complete rings that use a dimpled bead secured with spring tension to close the rings. They usually are found in ear, eyebrow, nostril, septum, lip, nipple, navel, and genital piercings (see Figure 2).

To remove captive bead rings, grab the jewelry between your thumb and forefinger. Use your dominant hand to dislodge the bead and make sure the ball does not become lost or aspirated. Twist the ends in opposite directions, rather than apart, to allow more room to clear the tissue for removal. Rings that have smaller diameters and thicker gauge metal are more difficult to remove. Insert the RXP into the ring and squeeze to open the ring. This technique will allow the bead to pop out and widen the gap between the ends of the ring, allowing easier clearance of the tissue as the ring is removed (see Figure 3).

LABRETS

Labrets are flat on the inside of the mouth and have spikes, balls, or other items protruding through to the face (see Figure 4). The procedure for removing labrets is similar to the procedure for removing barbells, because one or both ends of the jewelry unscrew. As with captive bead jewelry, ensure that pieces do not become lost or aspirated.

Specific anatomic considerations

EAR CARTILAGE

Because of anatomic space restrictions, inner-ear cartilage piercings may be extremely difficult to remove without appropriate tools. Mini-jaw Pennington clamps and hemostats may aid in removal. If it is difficult to access the jewelry with fingertips, 2 pairs of hemostats may be required. Remove the jewelry with the patient sitting or supine.

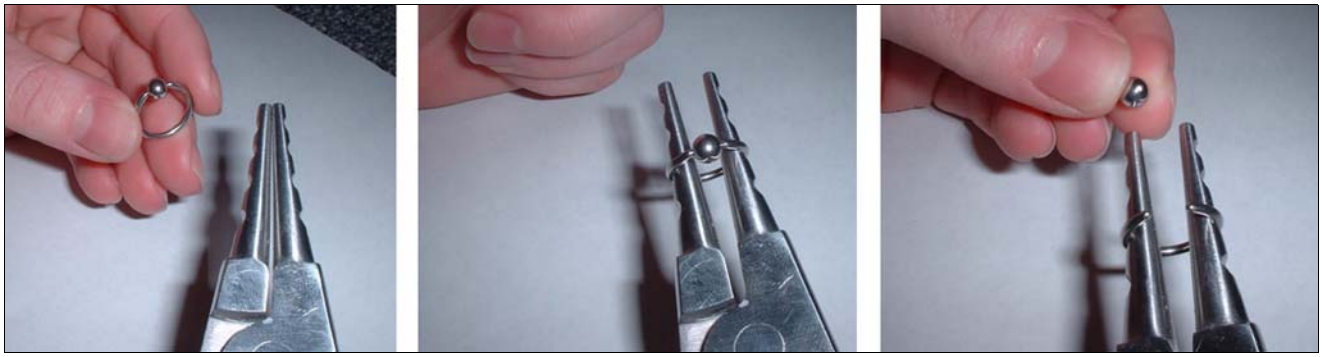

FIGURE 3
Using ring expanding pliers to open a captive bead ring. Ensure that the ball is not lost, especially in the airway.

FIGURE 4
Labrets are removed by unscrewing one of the ends, as with barbell jewelry. (Photo courtesy of Industrial Strength Body Jewelry.)

EYEBROW

The eyebrow may be compressed or manipulated to ease jewelry removal. Consider placing a 2 × 2 gauze pad over the patient's eye to avoid accidental injury when using unfamiliar tools or handling unusual jewelry. Remove the jewelry with the patient sitting or supine.

NOSTRIL

Insert a finger or cotton swab into the nostril to push the jewelry out gently and to allow hemostats to grab it. Remove the jewelry with the patient sitting or supine.

NASAL SEPTUM

If the patient is supine, insert gauze or gently pinch the nasal passages closed with one hand to avoid loss of jewelry parts into the airway. Make sure the gap on any ring is wide enough to clear the tissue. The circular barbell style jewelry is rather common in this area. To remove it, simply unscrew one end and then slide the ring out. Remove the jewelry with the patient sitting, if possible.

CHEEK

Use gauze to secure the jewelry with your finger on the inside of the cheek. Gently push out on the jewelry, using hemostats to secure it on the outside, then remove (ie, usually unscrew) the fixture. Remove the jewelry with the patient sitting, if possible. Use extreme caution when removing this jewelry from a supine patient to prevent jewelry aspiration.

LIP

Whenever possible, remove small jewelry parts away from the outside of the mouth to avoid loss of parts into the airway. Remove barbells from the lip with the same procedure that is used for barbells in the cheek. Remove the jewelry with the patient in a sitting position, if possible. Use extreme caution when removing this jewelry from a supine patient.

NIPPLE

Nipple tissue can be very tight, even on old or well-healed piercings. If necessary, apply sterile surgical lubricant to help the jewelry slide out. Remove the jewelry with the patient sitting or supine.

TONGUE

Use gauze to dry the jewelry and to grab it securely. If possible, gently pull the tongue out of the mouth to provide more room to work. Unscrew the ball from the barbell or labret slowly, always keeping your fingers in contact with the jewelry. If necessary, hold the bar post with hemostats as you unscrew the ball. Remove the jewelry with the patient sitting, if possible. Use extreme caution when removing this jewelry from a supine patient to prevent aspiration of the jewelry.

NAVEL

Many bent barbells used in navel jewelry will have one fixed end and a ball or fixture on the other. Simply find which end unscrews and slide out the jewelry. Remove the jewelry with the patient supine.

FEMALE GENITAL

Rings in female genitalia may be difficult to remove without proper tools (ie, RXPs). Exercise extreme caution when using tools in this area, because iatrogenic injury from tools can be serious! The majority of procedures in this area (eg, urinary catheterization and vaginal examinations) can be performed without removing the jewelry.[13] If removal is necessary, remove the jewelry with the patient in a gynecological examination position.

MALE GENITAL

If the jewelry is obviously in the urethra (eg, "Prince Albert" piercings), it should be removed prior to catheterization. Other common genital head piercings, such as the Ampallang, may or may not be transurethral. During catheterization, if resistance is felt at the site of the piercing, the jewelry probably is partially through the urethra and should be removed prior to completing the catheterization to avoid potential injury.[13] Remove the jewelry with the patient supine.

Acknowledgement

We wish to acknowledge the editorial assistance of Michael Seaver, RN, BA, CEN, in the preparation of this article.

REFERENCES

1. Mayers L, Judelson D, Moriarty B, Rundell K. Prevalence of body art (body piercing & tattooing) in university undergraduates & incidence of medical complications. Mayo Clin Proc 2002;77:29-34.
2. Khanna R, Kumar S, Raju B, Kumar A. Body piercing in the accident & emergency department. J Accid Emerg Med 1999; 16:418-21.
3. Mandabach M, McCann D, Thompson G. Body art: another concern for the anesthesiologist. Anesthesiology 1998;88:279-80.
4. Oyos T. Intubation sequence for patient presenting with tongue ring. Anesthesiology 1998;88:279.
5. Symons I. Body piercing. Anaesthesia 2000;55:305.
6. Hadfield-Law L. Body piercing: issues for A&E nurses. Accid Emerg Nurs 2001;9:14-9.
7. Shellock F, Cruces J. MR procedures: biologic effects, safety, and patient care. Radiology 2004;232:635-52.
8. Bendel L, Shellock F, Steckel M. The effect of mechanical deformation on magnetic properties and MRI artifacts of Type 304 & Type 316 L stainless steel. J Magn Reson Imaging 1997;7: 1170-1173.
9. Thiem L. Body piercing: clinical considerations. Clin Rev 2005; 15:30-5.
10. Jacobs V, Morrison J, Paepke S, Keichle M. Body piercing affecting laparoscopy: Perioperative precautions. J Am Assoc Gynecol Laparosc 2004;11:537-41.
11. Blazys D. Patients with body piercings. J Emerg Nurs 2003; 29:44.
12. Muensterer O. Temporary removal of navel piercing jewelry for surgery & imaging studies. Pediatrics 2004;114:384-6.
13. Anderson W, Summerton D, Sharma D, Holmes S. The urologist's guide to genital piercing. Br J Urol 2003;91:245-51.