ABSTRACT. Background. Navel piercings are becoming increasingly popular among adolescents. Body piercing jewelry must be removed before surgery, because electrical burns can occur with electrocauterization. Also, piercing jewelry creates artifacts during magnetic resonance imaging. Even temporary piercing jewelry removal may lead to closure of the subcutaneous tract; therefore, temporary replacement with a nonmetallic spacer is indicated.

Objective. This report describes a simple, safe, effective method for perioperative temporary replacement of navel piercing jewelry with a universally available, nonmetallic, sterile, intravenous catheter.

Methods. The umbilical piercing jewelry of 5 adolescent female patients was removed before surgical or radiologic interventions by using the following technique: 1) disinfecting the piercing and umbilical area with 70% isopropyl alcohol, 2) opening the piercing jewelry by pry open the ring, so that the ball falls out. Special- metal barbell (Fig 1A). A curved bar connects a fixed ornament on 1 side and a removable bead on the other. Most beads are screwed onto the bar (bar- bell type). Captive bead ring types are closed by inserting a ball with 2 small dimples into an open ring, which holds the bead through tension (Fig 1B). For removal, a surgical clamp can be introduced to pry open the ring, so that the ball falls out. Special- ized body jewelry removal tools are available. Piercing jewelry should be made of surgical steel, titanium, niobium, silver, or gold, to avoid allergic reactions against nickel.

Umbilical piercing jewelry is becoming increasingly popular among adolescent patients, as a unique form of self-expression. Recent surveys indicate that >50% of undergraduate students have some form of body piercing, with the navel being one of the most popular sites.

Body piercing jewelry must be removed before surgery, because electrical burns can occur when the jewelry is exposed to an electrical current during electrocauterization. Also, piercing jewelry creates artifacts during magnetic resonance imaging and may pose a risk to the patient during the study. Despite the increased prevalence of piercings, health care professionals remain surprisingly ignorant regarding their periprocedural management. In 1 survey, only 6 of 28 emergency department physicians were familiar with the opening mechanisms for piercing jewelry.

Temporary Removal of Navel Piercing Jewelry for Surgery and Imaging Studies

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METHODS

Piercing jewelry was removed before interventions by using the following technique (Fig 2): 1) disinfecting the piercing and um-
bilical area with 70% isopropyl alcohol, 2) removing the bead by turning it counterclockwise (all beads in this study had screw-type opening mechanisms), 3) placing the tip of a tight-fitting intravenous catheter (14 or 16 gauge, without the needle) over the threaded tip of the bar, 4) advancing the intravenous catheter caudally, pushing the piercing out of the skin tract, and 5) removing the jewelry, leaving the intravenous catheter in the subcutaneous skin tract as a spacer. The catheter was secured and covered with a sterile dressing for the operation or the imaging study. Alternatively, a monofilament suture could be passed through the catheter and tied into a loop with the catheter in place, to prevent dislodgement. After the intervention, the piercing jewelry was reinserted by following the illustrated steps in reverse order.

The technique was performed for 5 adolescent female patients (age: 14-17 years). Indications for surgery were an inguinal hernia in 1 case and appendicitis in 2 cases. Two other patients underwent magnetic resonance imaging. The patients were evaluated for any adverse effects, including infection, after 1 week. Specifically, patients were evaluated for fever, bleeding, local erythema, or purulent discharge from the umbilical piercing site.

**RESULTS**

The time from the initial navel piercing to periprocedural replacement with the intravenous catheter ranged from 3 weeks to 11 months. With this method, piercing jewelry removal and reinsertion required <2 minutes for all patients. No procedural complications were noted. All jewelry was reinserted successfully after the procedure. The intravenous catheter left in situ did not interfere with surgery and did not produce any artifacts or adverse effects dur-
against a flat surface, to provide a end is heated with a lighter or match and pressed technique, a 4-cm-long piece of nylon line is cut, and 1 removal of oral piercing jewelry. With this technique proved to be quick, feasible, and safe. The method may also be practical for temporarily replacing piercing jewelry in other anatomic regions, such as the nipples, earlobes, face, and genitals.

Because the problem of tract closure after piercing jewelry removal for surgery and imaging examinations is common, other alternatives have been described. One study proposed the use of nylon line used in lawn care equipment as a spacing device for removal of oral piercing jewelry. With this technique, a 4-cm-long piece of nylon line is cut, and 1 end is heated with a lighter or match and pressed against a flat surface, to provide a “stop.” The other end is tapered with a pocketknife. For pediatricians and pediatric surgeons, however, the time and resources necessary for this procedure may not be readily available.

A plastic barbell designed for use as a spacing device during magnetic resonance imaging is commercially available, at a moderate price. The device is meant to be inserted into the piercing tract by the patient before the procedure. Drawbacks are the expense and potential contamination by the nonsterile spacer. In contrast, our proposed method uses materials that are inexpensive and are universally available in medical settings (an intravenous catheter). Furthermore, the procedure can be performed by health care providers under sterile conditions.

Ideally, the initial piercing jewelry should be left in place during the entire minimal initial healing time. Despite individual variation, most piercing studios in our vicinity recommend at least 4 to 8 weeks before replacement of the starter jewelry. The shortest period from initial piercing to replacement with the intravenous catheter method in this series was 3 weeks. With the described technique, however, uncomplicated substitution should be feasible at any time.

To date, the procedure has not been used for laparoscopic surgery, during which 1 of the trocars is generally inserted at the umbilical fold. Both patients with appendicitis in this series underwent conventional appendectomies. For laparoscopic surgery, leaving a monofilament suture tied in a loop in the piercing tract might provide the necessary surgical access while keeping the tract patent.

Although literature on the subject is scarce, endocarditis associated with navel piercing has been reported for adolescents with congenital heart disease. Standard antibiotic endocarditis prophylaxis for this procedure may be indicated for high-risk populations when bacterial contamination is clinically suspected.

**REFERENCES**


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