The "Facemask Blinder"
A Technique for Optimizing Anxiolysis in Children Undergoing Facial Laceration Repair

Daniel S. Tsze, MD, MPH and Hilary A. Woodward, MS, CCLS†*

Abstract: We present the case of a 7-year-old boy with a forehead laceration that required suture repair. The child was anxious and uncooperative, and the initial plan was to administer intranasal midazolam to facilitate the repair. However, a facemask blinder was first implemented as a visual barrier to block the child's view of any anxiety-provoking stimuli and appeared to improve the child's cooperation with the procedure. Intranasal midazolam was not administered, and the laceration was cleaned and repaired successfully. In conjunction with adequate local anesthesia and distraction techniques, the facemask blinder helped to facilitate the completion of the laceration repair without the need for any physical restraint or pharmacologic anxiolysis or sedation.

Key Words: anxiolysis, facemask, laceration

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Laceration repair is one of the most common procedures performed in the pediatric emergency department and can often be a painful and distressing experience for children.[1,2] Facial laceration repair, in particular, can be a very distressing experience for children. Despite the use of adequate local anesthesia, integrative strategies, or pharmacologic anxiolysis or sedation, the sight of the suture needle or the laceration repair tools can still be extremely anxiety provoking to some children and cause them to become prohibitively upset and uncooperative.[3–6] The use of a visual barrier to block the child's view of the procedure is helpful in this context but is difficult to implement effectively when the laceration is on a child's face. We present a novel technique for adapting a surgical facemask to create a "facemask blinder" that prevents children undergoing facial laceration repair from visualizing anxiety-provoking stimuli and potentially circumvent the need for physical restraint or pharmacologic anxiolysis or sedation.

CASE

A 7-year-old boy presented to the pediatric emergency department with an isolated, deep, 2-cm forehead laceration sustained after running into a metal door at school. The patient's mother reported that the patient had a history of experiencing high anxiety in medical situations. The patient was observed to be very anxious and uncooperative during the physical examination and markedly distressed by the application of local anesthetic to the laceration using lidocaine-epinephrine-tetracaine gel.

The treating physician's initial plan was to provide procedural anxiolysis using intranasal midazolam to facilitate the laceration repair. Prior to the repair, however, a child life specialist began to work with the patient and introduced both distraction techniques and the use of a "facemask blinder" to block the patient's view of the site of the laceration repair on his forehead. The facemask blinder consists of a facemask that is affixed on 1 edge to the patient's forehead using 1 set of ties, above his eyes but below the laceration. While the patient wore the blinder and engaged in games and conversation for distraction, the lidocaine-epinephrine-tetracaine was removed, and local anesthesia around the area of the laceration was confirmed using a sharp instrument. The patient remained distractible and cooperative, while local anesthesia was confirmed, prompting the treating physician and mother to decide to proceed with the repair without intranasal midazolam.

Intranasal midazolam was not administered; distraction was continued with the facemask blinder in place, so that even when the patient noticed that there was activity at the site of the laceration, he could not see any of the medical equipment being used and remained engaged with the distraction. The laceration was irrigated and cleaned, and 12 sutures were placed successfully. The patient was comfortably engaged in games and conversation during the entire procedure, which was completed without the need for any physical restraint or pharmacologic anxiolysis or sedation.

DISCUSSION

We describe a simple technique of adapting a surgical facemask to create an effective visual barrier, or "blinder," which prevents a child from seeing the needle or laceration repair tools when a facial laceration repair is being performed and addresses the problems associated with using a traditional barrier to serve as a blinder. This technique is a useful adjunct to integrative (eg, distraction) or pharmacologic strategies for decreasing patient anxiety and distress and can be easily implemented using supplies that are readily available in the emergency department setting.

The application of the facemask blinder involves using 1 set of ties on the facemask to affix the mask to the child's face, but then flipping the mask up to a perpendicular position on their face to serve as a blinder (Figs. 1 and 2). We prefer using a surgical facemask that has a malleable nosepiece, which is placed against the child's face and serves as the base of the barrier. This piece helps the base maintain a more secure and customized fit on the child's face, as well as maintain the desired perpendicular position of the barrier. We typically remove the loose, unused set of ties to eliminate any potential source of irritation to the child. This technique is less successful with facemasks that utilize elastic ear loops or do not have a malleable nosepiece.

This technique is effective for lacerations both above and below the eyes. When the laceration is below the eyes (eg, chin), we position the facemask either on the bridge of the nose or on the nasal philtrum (Fig. 1). We have found that children prefer to wear the barrier on the bridge of the nose, as some have found the latter to be less comfortable when breathing through their nose. When

From the *Division of Pediatric Emergency Medicine, Department of Pediatrics, Columbia University College of Physicians and Surgeons; and †Department of Child Life, New York–Presbyterian Morgan Stanley Children's Hospital, New York, NY.

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Reprints: Daniel S. Tsze, MD, MPH, Division of Pediatric Emergency Medicine, Department of Pediatrics, Columbia University College of Physicians and Surgeons, 3959 Broadway, CHN-1-116, New York, NY 10032 (e-mail: dst2141@columbia.edu).

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the laceration is above the eyes (eg, forehead), we position the facemask inferior to the laceration but superior to the eyes (Fig. 2). Both positions allow the child to still visually engage in distraction modalities (eg, watching a video) and avoid the distress associated with having their eyes completely covered.

The use of a privacy shield or barrier is useful in children who may become distressed by the sight of a needle or the tools being used to perform the laceration repair, despite optimal local anesthesia, having received a pharmacologic anxiolytic or sedative, or being previously engaged with a form of distraction. The implementation of a traditional privacy shield or barrier is simple when the laceration repair is being performed on an extremity, but may be more difficult and laborious to implement properly when the laceration is on a child's face. First, it often requires an additional set of hands to hold up the barrier. Second, it is difficult to maintain a barrier in an appropriate location that provides consistent visual obstruction while avoiding intrusion into the sterile field, interference with the procedure, or direct physical irritation of the child with the barrier itself. Third, any attempt to block a child's view by simply covering the child's eyes can be a distressing experience in and of itself.

Unlike a barrier that needs to be held in position by a third party (eg, holding a drape vertically in position between the laceration and child's eyes), the fixed nature of the facemask blinder allows consistent and reliable visual interference even if the child moves his/her head or changes position. This technique also minimizes intrusion into the sterile field and interference with the procedure, unlike a free-floating barrier that needs to be constantly repositioned whenever the child moves. We have found that using the facemask blinder instead of a free-floating barrier reduces the degree of restraint required, which also contributes to less distress and anxiety in the child.

The success of this technique is dependent on the child's willingness to wear the facemask and tolerate the sensation of the barrier on his/her face. Acceptance of the facemask can be facilitated by allowing the child to explore and manipulate the mask prior to the procedure. Children may also be more cooperative when family members or emergency department staff wear the facemask blinder themselves, thereby demonstrating and normalizing the experience. The incorporation of imaginary play (eg, wearing the barrier on the nose and pretending to be birds, wearing it on the forehead, and pretending it is a visor for a trip to the beach) can further engage young children and familiarize them with the facemask.[7] By implementing these strategies, we have successfully used the facemask blinder in preschool- and school-aged children. We have found that it works best in children at least 3 years of age, but have used it successfully in children as young as 2 years of age.

FIGURE 1. Facemask blinder on child undergoing chin laceration repair.

FIGURE 2. Facemask blinder on child undergoing forehead laceration repair.

This technique is ideally suited for children who best cope with anxiety by being distracted from the stressor. Children who cope by watching or attending to the procedure may experience greater, rather than less, anxiety with a facemask blinder.[8] When this technique is used, it should be implemented as an adjunct to adequate local anesthesia and effective distraction strategies and can be useful in both children who have or have not received pharmacologic anxiolysis. We have found that this technique is effective for diverting attention away from anxiety-provoking stimuli when the use of other analgesic and anxiolytic strategies is inadequate and that its use has allowed us to obviate the need for pharmacologic anxiolysis in some children. We have also used this technique preemptively in children who we anticipate may experience anxiety and distress upon seeing the laceration repair equipment or may have a hard time focusing on distraction techniques while experiencing other stimuli.

CONCLUSIONS

The use of a facemask blinder is a technique for optimizing anxiolysis in children undergoing facial laceration repair who may be distressed, and subsequently uncooperative, by the sight of the needle or laceration repair tools. This technique must be used in conjunction with adequate local anesthesia and may be useful for augmenting the effectiveness of integrative strategies in both children who have or have not received pharmacologic anxiolysis.

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