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ACCRI: “Anesthesia and Critical Care Resources on the Internet”

To the Editor.—We would like to thank Jeffrey M. Cusick, M.D., for his recent review of our World Wide Web (WWW) site. In this response we want to bring readers up to date regarding the status of the site and also provide some background regarding the development of ACCRI, “Anesthesia and Critical Care Resources on the Internet.”

In August 1994, one of us (A.J.W.) sent electronic postings to the two anesthesia electronic discussion lists then functioning on the Internet and noted that he was putting together a list of anesthesia resources on the Internet and invited anyone who wished to have a copy to respond. Within 48 h more than 100 requests for the listing had been received. By the end of that month the ACCRII @aubpdo.dpo.ub.edu list was established to distribute the updated listing once a week to subscribers. By the end of 1994 the list had grown so large that monthly distribution began.

By March 1995, one of us (F.O.) offered to establish a WWW site under the auspices of Professor Wilhelm Erdmann of the Faculty of Anesthesiology, Erasmus University in Rotterdam and based on the monthly listings being distributed on ACCRII. The early WWW version of ACCRII began as a collection of related hypertext mark-up language (HTML) files. The rapid growth of ACCRII eventually rendered this method unworkable. By the summer of 1997, the HTML files were replaced by the current version using a database and the PERL scripting language. The Uniform Resource Locator (URL) for this current version is http://www.cui.nl/cgi-bin/accri.pl. Monthly updates are still distributed on ACCRII, as well as announcements of specific resources that might be of interest to anesthesiologists.

With the ACCRI WWW site we are attempting to track and organize all anesthesia, pain, and critical care resources available via the Internet and the WWW. A section of the database is also devoted to relevant electronic products, such as CD-ROMs, that are not available via the Internet. We make no attempt to evaluate or rate these materials but view our work as an effort to make access to them available from a single source with one or more WWW mirror sites that are now in the planning stage.

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The Modified Bitectard: A Method for Administering Supplemental Oxygen and Measuring Carbon Dioxide

To the Editor.—The nasal cannula is one of the most commonly used methods of administering supplemental oxygen and sampling end-tidal carbon dioxide (ETco2) for the monitoring of respiratory rate and rhythm in patients undergoing sedation for surgical procedures. Although it is a convenient method of delivering oxygen, patients sometimes complain about nasal irritation from placement of the nasal cannula and drying of the nasal passages from oxygen administration. The Bitectard (Genius Automedics, Inc., San Diego, CA) is a recently produced bite block used in patients undergoing general anesthesia to prevent endotracheal tube occlusion. This bite block may also be used in the awake patient with minimal discomfort. We present a modification of the Bitectard that may be used for the administration of supplemental oxygen and sampling of ETco2 in patients undergoing intravenous conscious sedation.

Taking a standard nasal cannula with oxygen and ETco2 sampling ports, the nasal prongs are cut off and the oxygen and ETco2 sampling...
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Fig. 1. (A) Modified BiteGard. (B) Modified Bitegard demonstration by the author.

lines are separated. The lines are then glued to the lateral grooves of the bite block (the nonbiting surface) with sterile medical adhesive. Special consideration must be taken to ensure proper placement of the \( ETCO_2 \) line because it is a suctioning sample line and may become occluded by adjacent tissue or saliva. The \( ETCO_2 \) line should be placed on the tongue side of the Bitegard because this line may become occluded if it is placed adjacent to the cheek. In addition, the \( ETCO_2 \) line should be secured at the most proximal portion of the bite block to ensure that saliva does not occlude the sample line. The oxygen and \( ETCO_2 \) lines are then fastened to the arm of the Bitegard with plastic chest-tube bands and secured with a chest-tube banding gun (fig. 1A). The modified Bitegard is placed directly into the patient's mouth with the plastic hook of the modified Bitegard turned to the patient's cheek side. Alternatively, the modified Bitegard may be turned on its side and placed in the patient's mouth with the plastic hook turned to the patient's chin. Mouth breathing should be encouraged once the modified Bitegard is in place.

We used this device on 10 patients scheduled for outpatient ophthalmic procedures, after approval of the protocol by the institutional review board of human experimentation. Six of the patients receiving the modified Bitegard observed having a dry mouth after their 30-min procedure and two patients stated that the device was tolerable but mildly uncomfortable. Three patients experienced no discomfort or dry mouth. \( ETCO_2 \) waveform was present in two patients throughout their procedures without any occlusion. Five patients showed intermittent \( ETCO_2 \) waveform and therefore experienced periodic sample-line occlusion or nasal breathing. Three patients showed no \( ETCO_2 \) waveform. In every case, the modified Bitegard did not interfere with the surgical field, and the surgeons were satisfied with the oxygen technique. The oxygen saturation in all patients increased from the patient's baseline to 99% with an oxygen flow rate of 2 l/min. All patients tolerated the modified Bitegard without complication. In certain patients, the modified Bitegard may be an acceptable alternative to nasal cannula oxygen supplementation because it does not interfere with the surgical field during facial or ocular surgery. In addition, this device easily inserts into the patient's mouth (fig. 1B).

We have found the modified Bitegard to be easy to prepare, tolerable for the patient, and a simple alternative to nasal cannula oxygen supplementation and monitoring of \( ETCO_2 \) in patients undergoing monitored anesthesia care.

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Tuohy Needle and Loss of Resistance Technique: A Safer Approach for Thoracentesis

To the Editor.—One complication of thoracentesis is a pneumothorax.1 This is a particular concern in patients being mechanically ventilated. In an effort to reduce this risk, we have recently been using Tuohy needles2 for this procedure, rather than the standard short-bevel needles included in our standard kits. We have now performed thoracentesis in eight mechanically ventilated patients, each receiving PEEP ranging from 5 to 10 cm of water. Surgical intensive care unit residents under the direct supervision of a single attending physician performed

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