

or nurse anesthetists to the location of flowmeters when differently configured anesthetic machines are in use in the same operating room suite.

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## A New Dressing Technique for Temporary Percutaneous Catheters Used for Pain Management

*To the Editor:*—The use of catheter techniques in pain management for repeated or continuous medication delivery continues to increase. In our pain clinic, several patients, especially the outpatients, have been reluctant to consent to catheter placement due to the restrictions involved. A common complaint is that of not being allowed to shower. This restriction is common policy with temporarily placed catheters because of an inability to protect the catheter and the insertion site from moisture and contamination with the common dressing methods. Current techniques that would afford protection to the catheter and allow the patient to shower include subcutaneous tunneling or surgically implanting the catheter.<sup>1,2</sup>

We have recently developed an alternative dressing technique that protects the catheter and allows the patient to shower without the need for invasive procedures. The technique involves the use of a common ostomy bag device that is placed over the catheter site with the catheter

inside the bag portion. We currently use the Surfit OR Set 2 Colostomy/Ostomy Device®, orifice size 4.5 cm or 5.7 cm, marketed by Squibb.

First, the catheter is placed using commonly described methods with

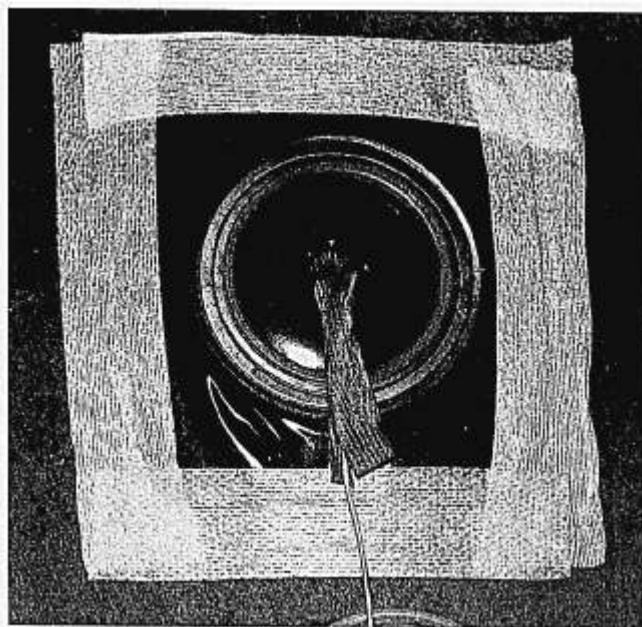


FIG. 1. Ostomy baseplate placed over catheter entry site, after catheter has been secured as described in text.



FIG. 2. Ostomy bag secured to baseplate with catheter protected inside.

strict sterile technique. It is then secured with adhesive and Steri-strips® according to the manner described by Raj and Denson.<sup>3</sup> The length of the Steri-strips® on the skin is kept within a 7-cm-diameter circle around the catheter site. This is less than the diameter of the ostomy baseplate we use. Next, a transparent sterile dressing (again about a 7-cm diameter) is applied over the catheter and Steri-strips®.<sup>4</sup> The baseplate center orifice may be widened as desired to allow adequate visualization of the catheter entry site. Then the catheter is threaded through the center of the baseplate, and the baseplate is secured to the skin. Finally, the catheter is either shortened or coiled and fed into the ostomy bag, which is then secured to the baseplate (figs. 1 and 2).

By improving patient comfort and by avoiding invasive methods, we have found improved patient compliance with the use of this technique. The catheter must be checked for signs of infection or malfunction as with other methods. Moisture may condense in the plastic bag due to the patient's perspiration. To avoid this, we allow the distal end of the ostomy bag to remain open periodically to air. One may also obtain separate sterile ostomy bags and change these bags as necessary without disturbing the catheter site or baseplate.

Our experience has been with temporary catheters (7–10 days), although this same technique could be used for longer periods of time. Potential applications for this technique include epidural, subarachnoid, infraclavicular brachial plexus, intrapleural, continuous lumbar sympathectomy, or other temporary catheters. This technique could also be used for a newly tunneled catheter exit site to provide protection while the site heals.

We have found that this dressing technique provides an excellent method for securing and protecting continuous catheters, while allowing the patient to shower.

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The opinions or assertions contained herein are the private views of the authors and are not to be construed as reflecting the views of the Department of the Army or the Department of Defense.

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## To Disconnect Is Better Than To Extubate

*To the Editor:*—In an attempt to reduce the risks associated with a disconnection at some point within the breathing system, manufacturers of anesthesia machines and breathing systems are focusing on the design of suitable “anti-disconnect fittings” (latching connectors, addendum to part 1 of ISO 5356/EN 205356; ISO = International Standardization Organization, EN = European Norm). Unintentional traction applied to the breathing system may lead to disconnection of the tubing apparatus or extubation of the trachea. Of these outcomes the disconnection is remedied much more easily by reconnecting the tubes. Based upon that assumption, we have designed an “anti-anti-disconnect device” to facilitate disconnection between the tracheal tube and Y-piece in the case that traction accidentally applied to the breathing system would otherwise dislodge the tracheal tube.

The “disconnecter” is a custom-made, autoclavable prototype, composed of and cut from polyvinylchloride, and not yet commercially available. On the inside, a rubber ring, held in place by silicone glue,

seals the connection and makes the device leak-tight. Bench testing for air-tightness was performed in accordance with EN 205356/1, annex C and D (20 and 37° C at 15, 30, and 60 mmHg with flows of 3.5, 4.5, and 7.5 l · min<sup>-1</sup>, respectively). Leakage was <150 ml · min<sup>-1</sup>, with 150 ml · min<sup>-1</sup> being the minimum leakage detectable by our test apparatus; true leakage, however, appears to be close to zero and hence likely to fulfill the requirements of EN 205356/§ 8.2. This “disconnecter” fits standard ISO equipment (Y-piece and endotracheal tube; fig. 1); it is comprised of two parts (the male end of one fitting into the Y-piece, the male end of the other fitting into the endotracheal tube) connected by a kinking-sensitive interlock (fig. 2).

We have tested the device in pigs,<sup>1</sup> using a cuffed 7.0-mm-ID endotracheal tube (polyvinylchloride, Portex) that was secured by adhesive tape, resembling clinical practice: two strips of white adhesive tape (“non-allergic”; Fixomull stretch®; Beiersdorf, Hamburg), 1.5 cm in width and 25 cm in length, were used. The tracheal tube was encircled