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Another Cause for a Leak in a Disposable Breathing Circuit

To the Editor:—One of the most common and serious mishaps in anesthetic practice is a disconnection of the patient breathing circuit. A mandatory part of each anesthesiologist's daily checklist, therefore, should include a full inspection of the breathing circuit for leaks or disconnections.

The case we present is that of a patient scheduled for elective inguinal herniorrhaphy under general anesthesia. Prior to anesthetic induction, the patient breathed oxygen *via* a mask supported by a tube holder or "Christmas tree." After intravenous induction of anesthesia, positive pressure ventilation by mask was attempted. We were surprised to hear a large leak in a breathing system that had just been checked. The circuit was again examined and no disconnection or other abnormality was found. On closer inspection, however, a large slit-shaped hole was discovered in the breathing circuit tubing at the site where it was held in place by the tube holder (fig. 1). A new breathing circuit was quickly substituted and the patient's lungs were then successfully ventilated. The trachea was intubated without difficulty and the remainder of the case proceeded uneventfully.

On inspection, we found the edges of the tube holder to be slightly sharp, but we also noted that the tubing from which the breathing circuit was fabricated was quite thin. We recommended a check of

these tube holders for sharp edges. They can be easily smoothed with a file.

Disposable breathing circuits may be significantly less durable than reusable circuits. Their acute malfunction will interfere with adequate ventilation of the patient's lungs and may therefore pose a challenge to safe patient management, even immediately after a thorough check of the breathing circuit has been completed.

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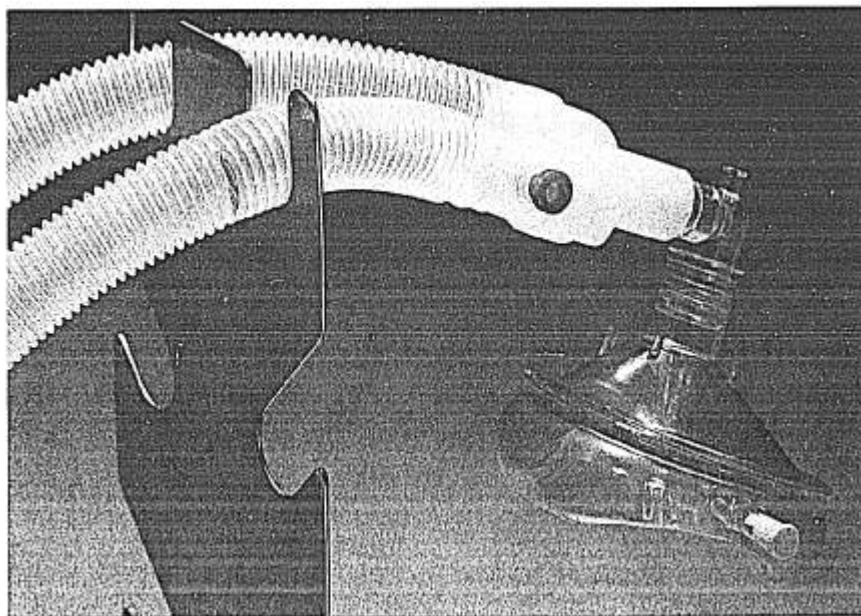


FIG. 1. The slit-shaped laceration of the corrugated patient breathing circuit made by the tube holder can be seen.