

LETTER TO THE EDITOR

BAIN CIRCUIT

DEAR SIR:

The "Pethick technique" is described by Dr. Pethick¹ as being a reliable means of testing the patency of the Bain system. A description of this test is included in the package of the Bain system manufactured by Respiratory Care, Inc. This letter is to call attention to an exception to the reliability attributed to this test.

A Bain system purchased from Respiratory Care, Inc. was disassembled, then reassembled without the inner tube, fitting the outer tube onto the original adaptor. It was then mounted on a Bain system bag mount manufactured by Boehringer Laboratories. When the outer tube was held fairly straight, the breathing bag collapsed when high flow oxygen was passed into the system. This demonstrates that if by some error in manufacturing or in recycling the components of the Bain circuit, the inner tubing is omitted, Pethick's technique may not expose the error. This error would only be discovered by transilluminating the circuit and inspecting it to confirm the presence of the inner tube, at the same time

confirming that the inner tube is not kinked. The Respiratory Care Company is now manufacturing Bain circuits in which the inner tubing is directed to the outside of the bag mount adaptor thus decreasing the possibility of the inner tube becoming removed during manufacture or cleaning of the equipment. Additionally, inspection of the Bain system inner tubing is now made particularly easy by the blue coloring of the inner tubing and the translucent nature of the outer tubing.

This letter describes the unusual situation in which the Pethick test would not expose a faulty Bain system, especially if it is one of the older style. I certainly recommend using the Pethick test routinely. Visual inspection of the system remains essential, however, for safely administering fresh anesthetic gases, oxygen, or air to a patient.

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¹Letter to the Editor by S.L. Pethick, M.B., B.S., *Canadian Anaesthetists' Society Journal*, 22: 115 (1975).