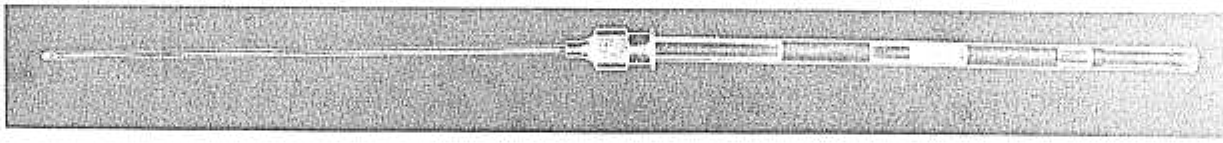

FIG. 1. Plastic sheath attached to the hub of the Tuohy needle filled with drops and bubbles.

We have been using a comparable method employing the clear plastic sheath of the Tuohy needle in the Arrow Continuous (Intermittent) Epidural Block Anesthesia Kit (Product no. AK-02000, supplied by Arrow International, Inc., Hill and George Avenues, Reading, Pennsylvania 19610), as well as in the Portex Epidural Mini pack (Reorder no. 38 00 11, supplied by Portex, Inc., 42 Industrial Way, Wilmington, Massachusetts 01887). The sheath fits tightly in the hub of the Tuohy needle. It is filled with a few drops of 0.9% NaCl solution before being attached to the Tuohy needle (fig. 1). We agree with Mustafa and Milliken that this modification is more reliable than the hanging drop sign of Gutierrez.[2] We feel that utilizing the plastic sheath contained in the Arrow and Portex kits makes this useful technique even simpler, more inexpensive, and more readily available.

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Rebreathing and the Bain Circuit. I.

To the Editor:—I read with interest Dean and Keenan's article[1] and their correspondence[2] with Nott and Norman.[3] Since they refer to my work and methods,[4] I have two comments.

Determination of the point at which rebreathing becomes clinically significant will continue to present a problem. Measurement of mean inspired carbon dioxide tension (PI_{CO_2}) requires integration of the instantaneous CO_2 signal with flow and is technically difficult. The total inspired CO_2 load can be calculated, but how much actually reaches the alveoli? My index using the minimum PI_{CO_2} of 2 mmHg (0.3%) may not be entirely satisfactory, but I suggest it gives a much more sensitive endpoint than that chosen by Dean and Keenan. Even when minimum PI_{CO_2} is recorded as zero significant rebreathing may be taking place, for a value of zero merely means that at some point (usually just at the end of inspiration) PI_{CO_2} falls to zero. A minimum PI_{CO_2} of 2 mmHg therefore indicates that at no time during the *whole* of inspiratory cycle was the fresh gas supply sufficient to prevent CO_2 reinhalation. In contrast with unrestricted breathing from the atmosphere, PI_{CO_2} will be zero throughout almost the whole of the inspiratory cycle. Kain and Nunn[5] observed a steady fall in alveolar oxygen concentration before they detected "rebreathing," which perhaps can be explained by the above arguments. Also the same logic may explain my observation (unpublished) that the Bain causes consistent rises in end-expired CO_2 tensions compared with the Lack or Magill, even though fresh gas flow was adequate to reduce minimum PI_{CO_2} to zero.

I note that Dean and Keenan like the simplicity and versatility of the Mapleson D system and are not concerned about the high flows necessary for spontaneous respiration. Nott and Norman suggest that a Mapleson A system is more appropriate.[3] The latter can reduce gas flows by nearly 70%,[4] the possible cost savings amounting to several thousand dollars per annum for each machine, a sum that many would consider meaningful. Maybe of more importance, certainly to theater personnel, is the reduction in potential theater pollution. Lastly, natural inspired humidity is higher in Mapleson A systems, high flows of dry fresh gases (as used with the Bain) being potentially harmful to patients.[6,7]

Anesthetists should be concerned that they are offering the best possible service. As a solution the combination of the principles of both Mapleson A (Lack or Magill) and Mapleson D (Bain) into one simple system would seem advantageous. Such a system has been described recently[8] and is likely to be available in the United States in the near future. The new system is simpler to operate than the Bain, is more versatile, uses low flow at all times, and allows easy scavenging. Hence, the convenience of the Bain system is no longer a valid reason for its continued use for spontaneous respiration.

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Rebreathing and the Bain Circuit. II.

To the Editor:—The original article[1] and subsequent correspondence[2,3] on carbon dioxide tensions in inspired anaesthetic gases prompt me to ask what the presently accepted level of carbon dioxide is in fresh air?

According to my copy of the *Handbook of Chemistry and Physics*,[4] dry atmospheric air contains 0.033 ± 0.001% of carbon dioxide by volume. (P_{CO_2} 0.25 mm STPD). However, popular press reports on the "green-house effect" suggest that this level is rising.

It would seem logical to consider any concentration of carbon dioxide in the inhaled atmosphere which is in excess of that in fresh air to be unphysiological, and to constitute a threat to the homeostasis of the patient's *milieu intérieur.*

Is the presently available monitoring equipment as sensitive and as accurate as the human respiratory centre? Would our patients not be safer if we used non-rebreathing techniques to avoid altogether the potential hazard of re-breathing carbon dioxide?

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A Simplified Method of External Jugular Vein Cannulation

To the Editor:—We currently use a simple technique for cannulating the external jugular vein (EJV) for central pressure monitoring that obviates the need for a "skin nick" with a #11 scalpel blade, hence the risk of lacerating the EJV.

The technique is as follows: the EJV is cannulated with an 18 g or 16 g Medicut® catheter over needle that has a stiff and widely tapering hub on the catheter. Once the vein has been identified, the catheter can be advanced with firm pressure and a slight twisting motion, using the