

cerebrospinal fluid P_{aCO_2} with blood P_{aCO_2} .² The disadvantages are as follows: (1) The end-expired P_{CO_2} is assumed to be held constant for six minutes but the P_{ACO_2} is not measured during this period. However, in previous work we found that 2–4 minutes of re-breathing produced a peak of P_{ACO_2} and this then plateaued.³ (2) The initial measurement of P_{aCO_2} and V_E is produced with an equipment dead-space of 100 ml. which will increase the resting V_E slightly. However, the slope and position of the curve should not be changed. This is the primary consideration in evaluating the effect of various factors on the response to carbon dioxide stimulation. The P_{aO_2} will vary with variation in ventilation since a constant volume of oxygen is added to the mask. However, P_{aO_2} below 100 does not occur. The variation in the slope and position

of the response curve is only affected minimally by P_{aO_2} when the P_{aO_2} is above 100.⁴

In our experience, this technique has proved to be easy, since we used equipment with which anesthesiologists are most familiar.

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Self-Powered Atomizer

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Our department has developed a safe and economical device to facilitate topical application of anesthetics and other medications requiring atomization. After 5 years of clinical trial, we have found the unit to have definite advantage over the inconvenient, manually operated, bulb-type atomizer especially for cocaineization prior to endotracheal intubation.

The source of power is pressurized dichlorodifluoromethane (Freon) which is nontoxic. This power atomizer † instantly delivers a fine mist-like spray of cocaine for laryngotracheal insufflation. We have safely used cocaine solution with concentrations varying from 4 to 10 per cent, and have found 4 per cent cocaine to be ideally adequate. A graduated solution vial is available which allows accurate measurement of the amount of solution used, thereby reducing the hazards of overdosage. The multipurpose power unit is readily adapt-

able to several different types of atomizers, one of which is shown in figure 1.

This all-purpose adjustable spray tip atomizer can be used with aqueous or more viscous solutions. The adjustable tip facilitates reaching otherwise inaccessible areas in the throat; behind the soft palate, or far down the trachea. Nebulized cocaine requires less than 5 minutes to effect good anesthesia. The duration of

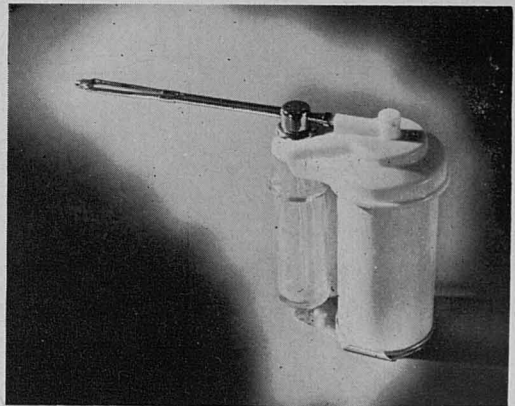


FIGURE 1.

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† The self-powered atomizer is available from Rals Laboratories, 3030 West 117 Street, Cleveland, Ohio 44111.

anesthesia is approximately one hour. This is especially advantageous in preventing "bucking" after intubation and considerably reduces postoperative coughing following endoscopic instrumentation.

The self-powered atomizer has other useful clinical applications in a variety of nose and

throat procedures. It has also been used for transvaginal insufflation of specific medications for certain gynecological disorders. The activated spray is utilized by the nursing service to assure oral hygiene in those patients who, by themselves, are unable to use mouth antiseptics.

Portable IPPB with the Stryker Frame

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The Air Evac Litter Mount † (Portable IPPB)¹ has completely replaced the bulky SAM Lung² in transportation of apneic patients in the USAF Aeromedical Evacuation system operated by the Military Airlift Com-

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† Available from Bird Corporation, Palm Springs, California.

mand.‡ This device would seem to lend itself to ready use in civilian emergencies and patient movement.

Because of the recent necessity of transporting an apneic patient on a Stryker Turning Frame, an adaptor for the Air Evac Litter Mount was designed and has been successfully used in a helicopter airlift.

The adaptor was built by welding two steel bars to a mounting which slides easily into

‡ Dannemiller, J., and Nareff, M. J.: Personal communication.

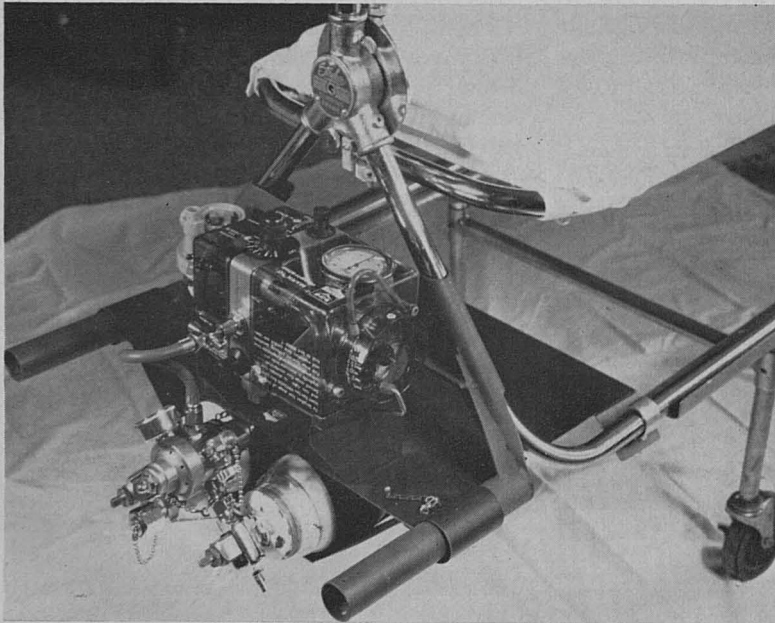


FIG. 1. The adaptor on the Stryker Frame (weight, 4 pounds; 10 inches between steel bars), with the Air Evac Litter Mount in place for use.