AN AID TO INTRAVENOUS ANAESTHESIA

BY

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MODERN anaesthetic techniques more and more often require the intravenous administration of anaesthetic agents. Multiple venepunctures during an operation are neither convenient nor desirable; furthermore, if the patient's arm is extended sideways on a splint to provide access to a vein, it may get in the way of the surgeon or his assistant, and the practice is, in any case, not entirely free from danger.

In order to meet these difficulties my partner, Dr. R. B. Sutcliffe, has designed for my use a robust three-way tap, fixed on a metal tube which can be clamped rigidly to the top of the reducing valve of a standard nitrous oxide or oxygen cylinder (fig. 1). To the vents of the three-way tap are attached (a) a saline drip, (b) about 4 feet of fine polythene tubing (Allen & Hanbury's No. 2, bore 1 mm) with a No. 1 needle at its distal end, and (c) a syringe containing the intravenous agent.

At the start of the anaesthetic the needle at the end of the polythene tubing (b) is inserted into the patient's vein and secured in position with strapping. The saline drip is then turned on: its sole purpose is to keep the circuit patent. The inducing agent (e.g. thiopentone) is next given from the syringe attached to vent (c) by turning
the tap; it passes so quickly through the polythene tubing on account of its fine bore that it reaches the patient's circulation almost immediately. The saline drip is then re-established. At this stage the patient is transferred to the operating table (care being taken not to dislodge the intravenous needle); the patient's arms are arranged comfortably at the side of the body and are not disturbed again until the end of the operation.

Further anaesthetic agents (e.g. relaxants, pethidine, hypotensive agents; etc.) can then be given as required through vent (c). If blood has to be transfused it simply replaces the saline, but wider polythene tubing (size 4 or 5) must then be used; the tubing can be changed at any stage of the proceedings. If the patient is to be sent back to the ward with a drip, it is merely necessary to extract the three-way tap from the circuit.

All connections are of the Luer lock type. The three-way tap, needles, connections, syringes, and polythene tubing are all sterilized by boiling.

The system has been in use for nearly two years and has proved most reliable and satisfactory.

The three-way tap and stand can be obtained from Messrs Down Bros., Mayer & Phelps, Ltd., 92-94 Borough High Street, London, S.E.1.

The great help given by Mr. Somervell of the above firm has been much appreciated.