Effective Valve for Inflating an Endotracheal Tube Cuff

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A new valve for inflating an endotracheal catheter cuff without clamping the pilot tubing to the cuff has been devised. It is reliable, extremely light in weight and constructed from a discarded Foley catheter valve and the female stem from standard intravenous extension tubing. These pieces, in combination, are inserted into the inflating tube. In addition, the valve allows the anesthesiologist to determine the degree of inflation necessary to seal the trachea. Figure 1 shows the component parts of the valve before assembly. A 5- or 10-ml syringe is used to inflate the cuff which usually requires 4–6 ml of air. While inflating the cuff the anesthesiologist can sense the pressure produced by the cuff against the tracheal lumen with his thumb and he then can remove the syringe from the valve and the cuff will remain inflated. Figure 2 shows an endotracheal tube with its cuff inflated, the valve attached and a specimen syringe.

The cuff remains inflated for the duration of any operative procedure without any loss of air. This valve has been found to be extremely valuable when prompt inflation of the endotracheal tube cuff is needed, especially in cases of intestinal obstruction and gastric hemorrhage.

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Fig. 1. Component parts of inflation valve.

Fig. 2. Cuff inflated, valve in place.