

inches and an outer diameter of 0.081 inches provides a wall of thickness 0.025 inches. In both instances, the diameter of the opening 61 of the malleable tip 60 is on the order of the wall thickness.

While the present invention has been described with regards to particular embodiments, it is recognized that additional variations of the present invention may be devised without departing from the inventive concept.

What I claim is:

1. An inflatable introducer for insertion into a catheter for allowing easier intubation of the catheter into a patient's body, comprising:

an elongated, malleable metal tube having open proximal and distal ends and being at least long enough for intubation purposes, said malleable metal tube being susceptible to re-shaping by a human hand and tending to resiliently maintain a selected and attained shape before and after insertion into said catheter and during intubation, said malleable metal tube resisting buckling and kinking;

a cylindrical, elongated, inflatable sheath surrounding and enclosing a distal end portion and said open distal end of said malleable metal tube;

fluid flow control means for controllably controlling the flow of fluid to and from said inflatable sheath, said fluid flow control means being coupled in fluidtight engagement to said open proximal end of said malleable metal tube; and

adapter means for receiving a source of pressurized fluid for inflating said inflatable sheath, said adapter means being coupled in fluidtight engagement with said fluid flow control means;

said open distal end having a diameter on the same order as a wall thickness of said malleable metal tube; whereby

said malleable metal tube providing means for resisting deformation during intubation yet malleably deforms during manual manipulation prior to and during intubation.

2. The introducer in accordance with claim 1 wherein said elongated, malleable metal tube extends a distance at least equal to the length of said catheter.

3. The introducer in accordance with claim 1 wherein said elongated, malleable metal tube has an inert, tightly fitting and open-ended cover preventing oxidation or other reactions of said malleable metal tube.

4. The introducer in accordance with claim 3 wherein said elongated, malleable metal tube extends a first distance from said cylindrical, elongated, inflatable sheath approximately the same as a second distance into said cylindrical, elongated, inflatable sheath.

5. The introducer in accordance with claim 3 wherein said elongated, malleable metal tube is made of dead-soft 3003 aluminum tubing having an inner diameter of approximately nineteen thousandths inch (0.019") and an outer diameter of approximately forty-seven thousandths inch (0.047").

6. The introducer in accordance with claim 3 wherein said elongated, malleable metal tube is made of dead-soft 3003 aluminum tubing having an inner diameter of approximately seventy-five thousandths inch (0.075") and an outer diameter of approximately one hundred twenty-five thousandths (0.125").

7. The introducer in accordance with claim 3 wherein said elongated, malleable metal tube is made of dead soft C12200 copper having an inner diameter of approximately twenty-eight thousandths inch (0.028") and an outer diameter of approximately seventy-one thousandths inch (0.071").

8. The introducer in accordance with claim 3 wherein said elongated, malleable metal tube is made of dead soft C12200

copper having an inner diameter of approximately thirty-one thousandths inch (0.031") and an outer diameter of approximately eighty-one thousandths inch (0.081").

9. In a soft, inflatable introducer adapted to be inserted into a hollow, cylindrical endotracheal catheter having open proximal and distal ends, the introducer being positioned and inflated to aid the intubation of the endotracheal catheter into a laryngotracheal passageway of a patient, and being deflated and withdrawn following intubation, comprising in combination:

(a) a long, hollow tube having open proximal and distal ends, said hollow tube having an external diameter less than the inside diameter of the hollow endotracheal catheter with which it is to be used, and having a length approximately equal to the length of the hollow endotracheal catheter;

(b) a cylindrical, elongated, inflatable sheath surrounding and enclosing the distal end portion and the open distal tip of said hollow tube, said inflatable sheath being composed of thin, soft and pliable material and having a sealed, smooth, rounded tip portion; said sheath being elongated and cylindrical in shape in its noninflated condition and the smooth, round tip portion being spaced apart from the open distal tip of said hollow tube approximately one-third of the length of the sheath when in its noninflated condition, the end portion of said cylindrical, inflatable sheath opposite the smooth, rounded tip portion being securely attached to the outside cylindrical surface of said hollow tube for forming a fluidtight seal between the inside of said inflatable sheath and the distal end portion of said hollow tube, the outer diameter of said thin, cylindrical, elongated sheath being larger than the external diameter of said long, hollow tube and being less than the inside diameter of the hollow endotracheal catheter; said cylindrical sheath and the distal end portion of said hollow tube being adapted for insertion into the hollow endotracheal catheter with the smooth, rounded tip portion of said inflatable sheath protruding beyond the open distal end of the hollow endotracheal catheter, the open proximal end portion of said hollow tube being adapted for receiving fluid of sufficient pressure to expand said cylindrical, inflatable sheath situated within the distal end portion of the hollow endotracheal catheter to a diameter at least as large as the inside diameter of the hollow endotracheal catheter to provide physical contact between the outer cylindrical surface of said thin, elongated sheath and the inner cylindrical surface of the distal end portion of the hollow endotracheal catheter, the expansion of said cylindrical inflatable sheath by fluid under pressure causing the smooth, rounded tip portion protruding beyond the open distal end of the hollow endotracheal catheter to expand to a diameter approximately equal to the outside diameter of the hollow endotracheal catheter; and

(c) means associated with the open proximal end portion of said hollow tube for closing the open proximal end portion of said hollow tube after said inflatable sheath has been inflated to hold and maintain said sheath in its expanded condition to prevent sliding of said cylindrical, elongated sheath relative to the hollow endotracheal catheter as the catheter is being intubated, the inflated smooth rounded tip portion of said inflatable introducer having a soft, pliable, fluid-filled cushion ahead of the distal end of the hollow endotracheal catheter for entry into a patient's laryngotracheal passageway through which the hollow endotracheal catheter is to be intubated, the improvement wherein: