

As various changes can be made in the above constructions and method without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. A subglottic jet ventilation device comprising,
 - a) a flexible, elongated conduit formed of a combustion resistant plastic material having a proximal end portion and a distal end portion,
 - b) a flexible, elongated nonwoven noncombustible metallic wire reinforcement member joined to said conduit to permit flexion of the conduit and extending continuously along said conduit from the proximal end portion of said conduit to enable said conduit to resist separation into separate pieces upon impact to said conduit by a laser beam, said metallic wire reinforcement member comprising a bendable straight wire portion that extends axially of said conduit from said proximal end portion of said conduit to said distal end portion of said conduit and flexes in conformity with said conduits, and
 - c) centering means for centering the distal end of said conduit in a trachea.
2. The subglottic jet ventilation device as claimed in claim 1 wherein said wire is embedded in said conduit.
3. The subglottic jet ventilation device as claimed in claim 1 wherein said conduit has an outside surface and said wire is joined to said conduit at said outside surface.
4. The subglottic jet ventilation device as claimed in claim 1 further including an elongated monitor line joined to said conduit for monitoring gas levels during surgery.
5. The subglottic jet ventilation device as claimed in claim 4 wherein said monitor line is provided at the interior of said conduit.
6. The subglottic jet ventilation device as claimed in claim 4 wherein said conduit has an outside surface, said monitor line being joined to the outside surface of said conduit, and said wire being disposed between said monitor line and said conduit.
7. The subglottic jet ventilation device as claimed in claim 6 wherein said monitor line and said conduit include separable interengagable portions which form a closure between said monitoring line and said conduit, said wire being disposed in said closure.
8. The subglottic jet ventilation device as claimed in claim 6 wherein two spaced junction walls join said monitor line to said conduit and said wire is disposed in the space between said junction walls.
9. The subglottic jet ventilation device as claimed in claim 1 wherein said noncombustible metallic wire reinforcement member further includes a flexible, coil substantially concentric with said conduit and in contact with said conduit.
10. The subglottic jet ventilation device as claimed in claim 9 wherein said coil surrounds said conduit.
11. The subglottic jet ventilation device as claimed in claim 9 wherein said coil is inside said conduit.
12. The subglottic jet ventilation device as claimed in claim 9 wherein said coil has a distal end in the form of a spiral, at the distal end of said conduit.
13. The subglottic jet ventilation device as claimed in claim 9 wherein said centering means includes a terminal piece and a plurality of radially spaced segments of predetermined axial length and radial extent extending from said terminal piece to the distal end of said conduit.
14. The subglottic jet ventilation device as claimed in claim 13 wherein said centering means has four radially spaced segments.

15. The subglottic jet ventilation device as claimed in claim 13 wherein said terminal piece is a disk-shaped member and said segments join the periphery of said disk-shaped member.

16. The subglottic jet ventilation device as claimed in claim 13 wherein said terminal piece is annular.

17. The subglottic jet ventilation device as claimed in claim 16 wherein said annular terminal piece has a tapered periphery.

18. The subglottic jet ventilation device as claimed in claim 1 wherein said centering means includes a plurality of leg portions extending radially away from the axis of said conduit.

19. The subglottic jet ventilation device as claimed in claim 1 further including an elongated monitor line for monitoring gas levels during surgery and said reinforcement member further includes a coil, said monitor line and said coil being inside said conduit, the axis of said coil and the axis of said monitor line being axially spaced from each other such that said conduit embraces predetermined peripheral surface portions of said coil and said monitor line.

20. A subglottic jet ventilation tube comprising,

a) a flexible elongated conduit formed of a combustion resistant plastic material having a proximal end portion and a distal end portion,

b) a flexible, nonwoven, noncombustible metallic wire coil concentrically positioned around said conduit axis, and located inside an outer surface of said conduit to permit flexion of the conduit, said coil extending continuously along said conduit from the proximal end portion of said conduit to the distal end portion of said conduit to support said conduit and to enable said conduit to resist separation into separate pieces upon contact of said conduit by a laser beam, and

c) centering means for centering the distal end of said conduit in a trachea.

21. The subglottic jet ventilation device as claimed in claim 20 wherein said centering means includes a terminal piece and a plurality of radially spaced segments of predetermined axial length and radial extent extending from said terminal piece to the distal end of said conduit, said segments being normally bent at a predetermined bend portion between said terminal piece and the distal end of said conduit such that the bent portions of said segments normally project radially away from the axis of said conduit.

22. The subglottic jet ventilation device as claimed in claim 21 further including an elongated monitoring line for monitoring gas levels during surgery, said monitoring line being joined to said conduit.

23. A method of preventing combustion and breakup of a subglottic jet ventilation tube upon impact by a laser comprising,

a) forming the ventilation tube using a conduit of a combustion resistant flexible plastic material that can be conformed to a patient's airway during installation of the tube,

b) providing the ventilation tube conduit with a flexible, nonwoven, noncombustible metallic wire reinforcement that extends continuously along the conduit from a proximal end portion of the conduit to a distal end portion of the conduit, the wire being selected such that it can be conformed to a patient's airway during installation of the tube,

c) joining a gas monitoring tube to the conduit to monitor gas levels during surgery and forming the monitoring tube of a flexible combustion resistant material that can