CLAIMS

1. A system for performing intra-corporeal ultraviolet therapy, the system comprising:

a delivery tube; and

at least one UV light source inside the delivery tube positioned to deliver UV light outward from the delivery tube, wherein the at least one UV light source is configured to emit wavelengths between 335 nm and 350 nm.

2. The system of claim 1, wherein the delivery tube is adapted to be positioned inside of an endotracheal (ET) tube.

3. The system of claim 1, wherein the light source is a string of LED light sources.

4. The system of claim 1, wherein the string of LED light sources are configured to emit UV light with a peak wavelength of between 335 and 350 nm.

5. The system of claim 1, wherein the string of LED light sources are configured to emit UV light with a peak wavelength of between 338 and 342 nm.

6. The system of claim 1, wherein the UV light source is configured to deliver UV light around the circumference of the delivery tube.

7. The system of claim 1, further comprising a power supply connected to the UV light source.

8. The system of claim 1, wherein the UV light source is configured to deliver UV light along a substantial length of the delivery tube.

9. The system of claim 2, wherein the ET tube is configured to be connected to a ventilator.

10. The system of claim 1, wherein a majority of an optical intensity of a spectral range of the UV light source is between 335 nm and 350 nm.

11. The system of claim 1, wherein the UV light source is configured to only emit light with a threshold intensity between 335 nm and 350 nm.

12. The system of claim 1, wherein the UV light source is configured to only emit light with an intensity of greater than 10% of its maximum intensity between 335 nm and 350 nm.

13. The system of claim 1, wherein the delivery tube is adapted to be positioned in a nasopharynx airway.

14. A system for performing intra-corporeal ultraviolet therapy, the system comprising:

a delivery tube;

a UV light source connected to the delivery tube and configured to emit wavelengths between 335 nm and 350 nm;

a memory; and

a control system coupled to the memory and comprising one or more processors, the control system configured to execute machine executable code to cause the UV light source to emit wavelengths.

15. The system of claim 14, wherein the system further comprises a power source that is connected to the UV light source.

16. The system of claim 14, wherein the control system is further configured to execute the machine executable code to cause the UV light source to emit wavelengths for at least 20 minutes, 40 minutes, or 60 minutes.

17. The system of claim 17, wherein the UV light source is configured to treat bacteria in an ET tube and in a patient's larynx and trachea.

18. The system of claim 17, wherein the UV light source comprises a string of LED light sources.

19. The system of claim 17, wherein the delivery tube is positioned inside an ET tube.

20. The system of claim 17, wherein the delivery tube is integrated with an ET tube.

21. The system of claim 17, wherein the control system is further configured to execute the machine executable code to cause the UV light source to emit wavelengths with a

threshold intensity comprising at least 1,100 microWatt/cm^2, 100 microWatt/cm^2, 2,000 microWatt/cm^2, or 2,100 microWatt/cm^2, 2,200 microWatt/cm^2, 2,300 microWatt/cm^2, 2,400 microWatt/cm^2, 2,500 microWatt/cm^2, 2,600 microWatt/cm^2, 2,700 microWatt/cm^2, 2,800 microWatt/cm^2, 2,900 microWatt/cm^2, or 3,000 microWatt/cm^2.

22. The system of claim 17, wherein the control system is further configured to execute the machine executable code to cause the UV light source to emit wavelengths with a threshold intensity comprising at least 13, 15, or 18 W/m^2.

23. A method of treating a patient for an infectious condition inside the patient's body, the method comprising:

inserting a delivery tube inside an intra-corporeal patient cavity; and

emitting UV-A light in the range of 335 – 350 nm from a UV light source positioned in the delivery tube to emit UV wavelengths outward from the delivery tube for a threshold duration and a threshold intensity.

24. The method of claim 23, wherein the delivery tube is a catheter with a string of LED light sources that have a peak wavelength of between 339 – 346 nm.

25. The method of claim 23, wherein the intra-corporeal cavity is a respiratory cavity.

26. The method of claim 25, wherein the respiratory cavity is the trachea.

27. The method of claim 25, wherein the respiratory cavity is the nasopharynx.

28. The method of claim 23, wherein the infectious condition is selected from the group consisting of a bacterial infection, a viral infection, a fungal infection, and combinations thereof.

29. The method of claim 23, wherein the infectious condition is pneumonia.

30. The method of claim 23, wherein the threshold duration comprises at least 20 minutes.

31. The method of claim 23, wherein the threshold intensity comprises at least 13, 15, or 18 W/m^2.

32. The method of claim 23, wherein the threshold intensity comprises an intensity of at least 1,100 microWatt/cm^2, 100 microWatt/cm^2, 2,000 microWatt/cm^2, or 2,100 microWatt/cm^2, 2,200 microWatt/cm^2, 2,300 microWatt/cm^2, 2,400 microWatt/cm^2, 2,500 microWatt/cm^2, 2,600 microWatt/cm^2, 2,700 microWatt/cm^2, 2,800 microWatt/cm^2, 2,900 microWatt/cm^2, or 3,000 microWatt/cm^2.

33. The method of claim 26, wherein the delivery tube is inserted inside an endotracheal tube.

34. The method of claim 26, wherein the delivery tube is inserted inside an endotracheal tube while suctioning the endotracheal tube.