ENT

1. Treatment of chronic sinusitis.

2. Treatment of chronic otitis.

3. Treatment of acute otitis media in patients requiring tympanostomy.

4. Treatment of nasal polyps.

5. Treatment of halitosis.

6. Treatment of recurrent tonsillitis/pharyngitis.

7. Treatment of cancers limited to mucosa and submucosa

Surgery

1. Improving the treatment of abscesses by equipping the drains with UV light technology.

2. Use with surgical drains to avoid superimposed infection.

3. Accelerating anastomosis healing process.

4. Aid in preventing adhesions.

Neurosurgery

1. Intrathecal fibro-optic delivery of UV light in treatment of refractory meningitis.

2. Treatment of refractory shunt infections.

3. Treatment of prion diseases with intrathecal or subarachnoid UV therapy. 4- Treating JC virus related Progressive multifocal leukoencephalopathy by decreasing viral load.

Gynecology

1. Treatment of bacterial or fungal vaginosis.

2. Treatment of rectovaginal/colovesical fistula.

CLAIMS

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

an endotracheal (ET) tube;

a delivery tube adapted to be positioned inside of the ET 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 positioned inside the ET tube is configured such that the at least one UV light source radiates the respiratory tissue in the tracheal airways of a ventilated patient in which the ETT is surrounded by the tracheal airways.

3. The system of claim 1, wherein the at least one light source is a string of LED light sources that are distributed along the entire length of the delivery tube.

4. The system of claim 3, 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 3, 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 3, wherein the UV light source is configured to deliver UV light along a substantial length of the delivery tube.

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9. The system of claim 2, wherein the ET tube is configured to be placed through the mouth of a patient into the trachea and 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 system is configured to cause the UV light emitted outward from the delivery tube to treat the respiratory canals of a patient and/or treat the inside of the ETT.

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

an endotracheal (ET) tube;

a flexible delivery tube configured to be connected to the ET 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,

wherein the delivery tube is adapted to be positioned inside the ET tube.

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 14, wherein the UV light source is positioned inside the delivery tube and configured to emit UV light outward from the flexible delivery tube to treat the inside of the ET tube.

18. The system of claim 14, wherein the UV light source comprises a string of LED light sources that are distributed along the delivery tube.

19. The system of claim 14, wherein the delivery tube is integrated with an ET tube.

20. 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 with a threshold intensity comprising at least 1,000 microWatt/cm^2, 1,100 microWatt/cm^2, 2,000 microWatt/cm^2, 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.

21. 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 with a threshold intensity comprising at least 13, 15, or 18 W/m^2.

22. A system for performing intra-corporeal ultraviolet therapy for use in treating a patient for an infectious condition inside the patient's body, the system comprising

a delivery tube for insertion inside an intra-corporeal cavity; and

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

23. The system of claim 22, wherein the delivery tube is a catheter with a string of LED light sources that have a peak wavelength of between 339 – 346 nm.

24. The system of claim 22, wherein the intra-corporeal cavity is a respiratory cavity.

25. The system of claim 24, wherein the respiratory cavity is the trachea.

26. The system of claim 24, wherein the respiratory cavity is the nasopharynx.

27. The system of claim 22, wherein the infectious condition is selected from the group consisting of a bacterial infection, a viral infection, a fungal infection, and combinations thereof.

28. The system of claim 22, wherein the infectious condition is pneumonia.

29. The system of claim 22, wherein the threshold duration comprises at least 20 minutes.

30. The system of claim 22, wherein the threshold intensity comprises at least 13, 15, or 18 W/m^2.

31. The system of claim 22, wherein the threshold intensity comprises an intensity of at least 1,000 microWatt/cm^2, 1,100 microWatt/cm^2, 2,000 microWatt/cm^2, 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.

32. The system of claim 25, wherein the delivery tube is inserted inside an endotracheal tube.

33. The system of claim 25, wherein the delivery tube is inserted inside an endotracheal tube while suctioning the endotracheal tube.