CLAIMS

What is claimed is:

1. A system for administering a solution to an individual by inhalation, comprising:

an inlet port connected to a connector tube configured to receive a mist of the solution;

a breathing mask connected to the connector tube and configured to deliver the mist to the individual;

a rebreathing chamber connected to the connector tube and configured to receive an exhaled portion of the mist from the patient and recycle at least some of the exhaled portion back to the individual; and

an exhaust tube connected to the rebreathing chamber and configured to collect an exhaust portion of the mist; and

a cleaning unit connected to a distal end of the exhaust tube and configured to clean the exhaust portion of the mist.

2. A system of claim 1, wherein the breathing mask includes a head strap configured to fasten the breathing mask to the individual.

3. The system of claim 2, wherein the head strap is connected to a support configured for positioning at a back of the individual's head.

4. A system of claim 1, further comprising a nebulizer connected to the connector tube at the inlet port.

5. A system of claim 4 wherein the nebulizer is an air-flow driven nebulizer.

6. A system of claim 5 wherein the nebulizer is an ultrasonic nebulizer.

7. A system of claim 1 wherein the cleaning unit comprises a HEPA filter.

8. A system of claim 7 wherein the cleaning unit includes more than one HEPA filters connected in series.

9. A system of claim 7 further comprising another HEPA filter at a distal end of the rebreathing chamber.

10. A system of claim 7, further comprising an ultra violet cleaning unit at a distal end of the HEPA filter.

11. A system of claim 1, further comprising a positive end-expiratory pressure valve at a distal end of the cleaning unit.

12. A method for treating a respiratory disorder by inhalation using a breathing apparatus, the method comprising:

providing a platelet rich plasma solution;

aerosolizing the platelet rich plasma solution; and

providing the aerosolized platelet rich plasma solution to a patient through the breathing apparatus.

13. The method of claim 12, wherein said providing the aerosolized platelet rich plasma solution to the patient comprising providing the aerosolized platelet rich plasma solution to the patient through a breathing mask connected to a rebreathing chamber, and wherein the method further comprises:

receiving exhaled platelet rich plasma solution in the rebreathing chamber; and

providing at least a portion of the exhaled platelet rich plasma solution to the patient.

14. The method of claim 13, further comprising storing fresh platelet rich plasma solution in the breathing apparatus during an exhalation, and providing the stored platelet rich plasma solution to the patient in a subsequent inhalation.

15. The method of claim 12, further comprising identifying a respiratory disorder in the patient.

16. The method of claim 12 further comprising:

drawing blood from the patient, wherein the platelet rich plasma solution is derived from the blood of the patient.

17. The method of claim 16, further comprising injecting the platelet rich plasma solution into the breathing apparatus.

18. The method of claim 12, wherein providing the aerosolized platelet rich plasma solution to a patient comprises providing an amount sufficient to treat a respiratory disorder, wherein the amount sufficient to treat the respiratory disorder is about 6 to about 9 cubic centimeters of the platelet rich plasma solution.

19. The method of claim 12, wherein the respiratory disorder is a chronic obstructive pulmonary disorder, a bacterial or viral lung infection, a damage to lungs from smoking, an end-stage respiratory disorder, a seasonal allergy, sinusitis, pleuritic chest pain, ischemic cardiac pain, or combinations thereof.

20. The method of claim 12, where in the platelet rich plasma is diluted in a platelet poor plasma solution.

21. The method of claim 18, further comprising providing a platelet poor plasma solution to the patient after providing the platelet rich plasma solution.

22. A handheld breathing apparatus comprising:

a nebulizer including a first port configured to receive a solution to be nebulized and a second port configured to receive a gas;

a connector tube coupled to the nebulizer;

a mouthpiece connected to one end of the connector tube; and

a cap connected to another end of the connector tube.

23. The handheld breathing apparatus of claim 22, wherein the cap includes a filter.

24. The handheld breathing apparatus of claim 22 wherein the first port comprises a sterile port.

25. The handheld breathing apparatus of claim 22 wherein the nebulizer is a pneumatic nebulizer.

CLAIMS

1. An invention not claimed in any divisional application.