CLAIMS

1. A closed evacuated intravenous tubing set system comprising:

a first IV tubing comprising a coupling component for connecting to a source of flush solution to access the source of flush solution and deliver the flush solution to a flexible evacuated flush chamber having a vacuum;

a second IV tubing for delivering flush solution from the evacuated flush chamber to a catheter;

wherein the flush chamber and the first and second IV tubing are integrally connected via one or more heat seals to form the closed evacuated intravenous tubing set system;

the first IV tubing threaded through one or more flow control devices between the source of flush solution and the flush chamber to control the flow of flush solution into the flush chamber, such that the one or more flow control devices do not come into contact with the flush solution; and

the second IV tubing threaded through one or more flow control devices between the flush chamber and the catheter, such that the one or more flow control devices do not come into contact with the flush solution.

2. The intravenous tubing set of claim 1, wherein the coupling component comprises an intravenous bag spike.

3. The intravenous tubing set of claim 1, wherein the source of flush solution is an intravenous bag.

4. The intravenous tubing set of claim 1, wherein the flush solution is a saline solution.

5. The intravenous tubing set of claim 1, wherein the flush chamber comprises one or more sheets of flexible plastic film.

6. The intravenous tubing set of claim 5, wherein the one or more sheets of flexible

plastic film are heat-sealed to form the flush chamber.

7. The intravenous tubing set of claim 1, wherein the flush chamber comprises two heat-sealed sheets of flexible polypropylene.

8. The intravenous tubing set of claim 1, wherein the flush chamber is positioned as a bifurcated appendage to the first IV tubing.

9. The intravenous tubing set of claim 8, further comprising an attachment port disposed below the flush chamber.

10. The intravenous tubing set of claim 9, further comprising a short length of IV tubing to connect a second source of solution downstream of the flush chamber.

11. The intravenous tubing set of claim 10, wherein the second source of solution comprises a medication.

12. The intravenous tubing set of claim 1, wherein the flush chamber is positioned in series with the first-IV tubing.

13. The intravenous tubing set of claim 1, wherein the flush chamber is disposed partway down the length of the first IV tubing to allowing a volume of saline to be measured prior to flushing.

14. The intravenous tubing set of claim 1, wherein the volume of the flush chamber correlates to a pre-determined flushing volume.

15. The intravenous tubing set of claim 14, wherein the volume of the flush chamber allows for a 3 mL, 5 mL, or 10 mL flush to be delivered to the patient catheter.

16. The intravenous tubing set of claim 1, wherein the flush chamber allows for tactile feedback to a user during a flush procedure to enable the user to detect an occlusion in an IV line or in a patient's vein.

17. The intravenous tubing set of claim 1, further comprising a bubble trap disposed in the first IV tubing.

18. The intravenous tubing set of claim 1, wherein the flow control device is a valve, clamp, gate, stopcock, diverter or plug.

19. The intravenous tubing set of claim 18, wherein the valve is a pinch valve or one way valve.

20. An intravenous tubing set comprising:

a coupling component for accessing a source of flush solution; a flexible evacuated flush chamber having a vacuum;

a first IV tubing for integrally connecting the source of flush solution to the flush chamber for delivering flush solution from the source of flush solution to the flush chamber via the coupling component, wherein the first IV tubing is connected to the flush chamber by one or more heat seals;

a first flow control device disposed in the first IV tubing between the source of flush solution and the flush chamber to control the flow of flush solution into the flush chamber, wherein the first flow control device does not come into contact with the flush solution; a second IV tubing integrally connecting the flush chamber to a patient catheter via one or more heat seals for delivering flush solution to the patient catheter; such that the source of flush solution, the flush chamber, the first IV tubing and the second IV tubing form a closed evacuated system;

a second flow control device disposed in the second IV tubing between the flush chamber and the patient catheter, wherein the second flow control device does not come into contact with the flush solution;

and a third flow control device disposed downstream from the flush chamber to close off the flush chamber during continuous IV therapy, wherein the third flow control device does not come into contact with the flush solution.

21. The intravenous tubing set of claim 20, wherein the second flow control device

allows for the second IV tubing to be closed as flush solution from the source of flush solution fills the flush chamber.

22. The intravenous tubing set of claim 21, wherein the second flow control device may be subsequently opened to empty the flush solution into the catheter.

23. The intravenous tubing set of claim 20, wherein the flush chamber is positioned as a bifurcated appendage to the first IV tubing.

24. The intravenous tubing set of claim 20, wherein the flush chamber is positioned in series with the first IV tubing.

25. The intravenous tubing set of claim 20, wherein the flush chamber is disposed partway down a length of the first IV tubing to allow a volume of saline to be measured prior to flushing.