

WHAT IS CLAIMED IS:

1. A disinfection cap having a housing comprising:
 - a cylindrical sidewall having an inner surface defining a cavity and a top wall,
 - 5 an open bottom formed by the cylindrical sidewall with an opening to the cavity within said housing for receiving a hub of a luer connector;
 - a retention rod disposed within the cavity, the retention rod having a proximal flange, a distal flange and an elongated rod between the proximal flange and distal flange, the distal flange of the retention rod abutting the top wall of the cavity;
 - 10 a fluid reservoir defined between the inner surface of the housing, the proximal flange of the retention rod and the distal flange of the retention rod; and,
 - a disinfectant disposed within the fluid reservoir, the disinfectant being retained within the fluid reservoir in an initial state, wherein the hub of said luer connector is received within said inner surface of said cavity.
- 15 2. The disinfection cap of claim 1, wherein a diameter of the proximal flange of the retention rod is equal to or slightly larger than a diameter of a proximal portion of the cavity, configured to have an interference fit sufficient to create a fluid seal between the proximal flange of the retention rod and the proximal portion of the cavity.
- 20 3. The disinfection cap of claim 2, wherein a diameter of the elongated rod is configured to buckle to a final state upon insertion of a hub of the luer connector when the hub of the luer connector is received within the cavity, thereby breaking the fluid seal between the proximal flange and the proximal portion of the cavity and releasing disinfectant into the cavity disinfecting the hub and a periphery of the luer connector.
- 25 4. The disinfection cap of claim 3, wherein at least one circular fin is disposed on the elongated rod, the at least one circular fin having a thickness configured to elastically deform, whereby pressure buildup within the fluid reservoir due to insertion of the luer connector causes deformation of the at least one fin.

5. The disinfection cap of claim 2, wherein a diameter of the elongated rod is configured to compress upon insertion of the hub of the luer connector when the hub of the luer connector is received within the cavity.
6. The disinfection cap of claim 1, wherein a diameter of the distal flange is equal to or
5 larger than a diameter of a distal portion of the cavity configured to create an interference fit sufficient enough to removably hold the retention rod within the cavity.
7. The disinfection cap of claim 1, wherein the disinfection cap is secured by an at least one thread or set of tabs included on an outer surface of the housing.
8. A disinfection cap having a housing comprising:
- 10 a cylindrical sidewall having an inner surface defining a cavity and a top wall,
an open bottom formed by the cylindrical sidewall with an opening to the cavity within said housing for receiving a hub of a luer connector;
- a corrugated capsule disposed within the cavity, the corrugated capsule having a proximal surface, a distal surface and an elongated body between the proximal surface
15 and distal surface, the distal surface of the corrugated capsule abutting the top wall of the cavity, the corrugated capsule having a fluid reservoir; and,
- a disinfectant disposed within the fluid reservoir, the disinfectant being retained within the fluid reservoir in an initial state, wherein the hub of said luer connector is received within said inner surface of said cavity.
- 20 9. The disinfection cap of claim 8, the elongated body further comprising at least one corrugation configured to collapse on one another upon application of pressure on the proximal surface due to insertion of the hub into the cavity of the housing.
10. The disinfection cap of claim 9, the corrugated capsule further comprising a slit in fluid communication with a fluid reservoir, the slit being disposed on the proximal surface of the
25 corrugated capsule.
11. The disinfection cap of claim 10, wherein in an initial, uncompressed state, the slit is fluidly closed, the fluid reservoir retaining disinfectant due to negative pressure within the fluid reservoir.

12. The disinfection cap of claim 11, wherein upon compression of the elongated body due to insertion of the hub of the luer connector, the at least one corrugation collapses on one another causing a pressure buildup within the fluid reservoir, the pressure buildup causing the slit to deform and open, causing disinfectant to eject from the slit, disinfecting the hub and a periphery of the luer connector.
13. The disinfection cap of claim 9, the corrugated capsule further comprising a plurality of perforations in fluid communication with a fluid reservoir, the plurality of perforations being disposed on the elongated body of the corrugated capsule.
14. The disinfection cap of claim 13, wherein in an initial, uncompressed state, the plurality of perforations are fluidly closed, the fluid reservoir retaining disinfectant due to negative pressure within the fluid reservoir.
15. The disinfection cap of claim 14, wherein upon compression of the elongated body due to insertion of the hub of the luer connector, the at least one corrugation collapses on one another causing a pressure buildup within the fluid reservoir, the pressure buildup causing the plurality of perforations to deform and open, causing disinfectant to eject from the plurality of perforations, disinfecting the hub and a periphery of the luer connector.
16. The disinfection cap of claim 8, the distal surface of the corrugated capsule further comprising an aperture extending through the distal surface.
17. The disinfection cap of claim 8, wherein the proximal surface of the corrugated capsule is an open proximal surface.
18. The disinfection cap of claim 17, further comprising an end cap abutting an engagement surface of the open proximal surface.
19. The disinfection cap of claim 18, wherein the end cap comprises a plurality of apertures, the plurality of apertures configured to be disposed around a periphery of the end cap.
20. The disinfection cap of claim 19, wherein the plurality of apertures are positioned a distance away from a center of the end cap as to not direct fluid flow into a lumen of the hub of the luer connector.

21. The disinfection cap of claim 19, wherein in an initial, uncompressed state, the plurality of apertures are configured to not excrete disinfectant due to negative pressure within the fluid reservoir.
22. The disinfection cap of claim 21, wherein in a final, compressed state, buildup of pressure causes disinfectant to excrete through the plurality of apertures, disinfecting the hub and the periphery of the luer connector.
23. A disinfection cap having a housing comprising:
- a cylindrical sidewall having an inner surface defining a cavity and a top wall,
 - an open bottom formed by the cylindrical sidewall with an opening to the cavity within said housing for receiving a hub of a luer connector;
 - a corrugated capsule having a proximal surface disposed within the cavity, the corrugated capsule having an open proximal end, a closed distal end and an elongated body between the open proximal end and the closed distal end, the closed distal end of the corrugated capsule abutting the top wall of the cavity, the corrugated capsule having a fluid reservoir;
 - a disinfectant disposed within the fluid reservoir, the disinfectant being retained within the fluid reservoir in an initial state; and
 - a piston disposed against the open proximal end, wherein the hub of said luer connector is received within said inner surface of said cavity.
24. The disinfection cap of claim 23, the elongated body further comprising at least one corrugation configured to collapse on one another upon application of pressure on the proximal surface due to insertion of the hub into the cavity of the housing.
25. The disinfection cap of claim 24, the piston comprising a proximal portion and a distal portion, the proximal portion having a diameter equal to or slightly less than a diameter of the corrugated capsule, a diameter of the distal portion is less than or equal to a diameter of the fluid reservoir, the diameter of the distal portion being configured to be positioned within the corrugated capsule, creating a liquid tight seal.
26. The disinfection cap of claim 25, the piston further comprising a plurality of apertures extending from the distal portion of the corrugated capsule to the open proximal end of the

corrugated capsule, the plurality of apertures being in fluid communication with the fluid reservoir and are configured to eject disinfectant upon compression of the corrugated capsule.

27. The disinfection cap of claim 25, the piston further comprising a plurality of directional channels disposed on a proximal surface of the proximal portion of the piston, the plurality of directional channels being configured to direct disinfectant towards a periphery of the hub of the luer connector.

28. The disinfection cap of claim 27, wherein the plurality of directional channels are configured to be disposed around a periphery of the proximal surface of the piston, the plurality of directional channels being positioned a distance away from a center of the proximal surface as to not direct fluid flow into a lumen of the hub of the luer connector.