Title: CAP FOR A MALE Luer CONNECTOR AND HAVING DISINFECTING MEANS FOR FEMALE Luer CONNECTOR

Abstract: A system and method for disinfecting an exposed portion of a female luer connector is disclosed. A male luer connector (140) coupled to a male luer connector cap (200) is provided where the male luer connector cap has a chamber (222) containing a disinfectant and a sealing member for sealing the disinfectant in the chamber. The chamber is at least partly opened and the disinfectant exposed by movement of the sealing member. An exposed surface of a female luer connector (120) is caused to come in contact with the disinfecting fluid in the chamber prior to the female luer connector mating with the male luer connector.

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1. A cap for connection to a male luer comprising:
   a connecting portion configured to be coupled to a male luer connector;
   a body portion having a proximal end coupled to the connecting portion, a
distal end opposite to the proximal end, and a chamber formed between the proximal
and distal ends, the chamber containing a disinfectant; and
   a sealing member coupled to the body portion at the distal end and configured
to prevent leakage of the disinfectant, wherein the chamber is configured to be at least
partially opened by movement of the sealing member and to provide an exposed
portion of a female luer connector access to the chamber containing the disinfectant,
   wherein the body portion is sized to allow entry of the exposed portion of the
female luer connector into the chamber from the distal end.

2. The male luer connector cap of Claim 1, wherein the connecting portion comprises
a threaded portion comprising a luer screw thread formed thereon and configured to
be engaged with a counterpart luer screw thread formed on the male luer connector.

3. The male luer connector cap of Claim 1, wherein the connecting portion comprises
a sleeve portion configured to be slip fitted over a portion of the male luer connector.

4. The male luer connector cap of Claim 3, wherein the sleeve portion is made of a
resilient material so as to grippingly engage an outside surface of the male luer
connector.

5. The male luer connector cap of Claim 1, wherein the female luer connector
comprises a needleless valve.

6. The male luer connector cap of Claim 1, wherein the disinfectant comprises a
disinfectant fluid.

7. The male luer connector cap of Claim 6, wherein the chamber further contains a
matrix for absorbing at least some of the disinfectant fluid.
8. The male luer connector cap of Claim 7, wherein the matrix comprises a foam sponge.

9. The male luer connector cap of Claim 7, wherein the matrix is at least partly attached to a surface inside the chamber.

10. The male luer connector cap of Claim 1, wherein the sealing member comprises a peelable lid.

11. The male luer connector cap of Claim 1, wherein the sealing member comprises a hinged lid.

12. The male luer connector cap of Claim 1, wherein the body portion comprises a female luer thread formed therein at the distal end, the female luer thread configured to be engaged with a counterpart male thread of the female luer connector.

13. A male luer connector and cap assembly comprising:
   a male luer connector having a housing portion, the housing portion having a luer screw thread formed therein; and
   a male luer connector cap coupled to the male luer connector and comprising:
     a connecting portion configured to be coupled to the male luer connector,
     a body portion having a proximal end coupled to the connecting portion, a distal end opposite to the proximal end, and a chamber formed between the proximal and distal ends, the chamber containing a disinfectant, and
     a sealing member coupled to the body portion at the distal end and configured to prevent leakage of the disinfectant,
     wherein the chamber is configured to be at least partially opened by movement of the sealing member and to provide an exposed portion of a female luer connector access to the chamber containing the disinfectant
     wherein the chamber is sized to allow entry of an exposed portion of the female luer connector into the chamber from the distal end.
14. The male luer connector and cap assembly of Claim 13, wherein the male luer connector is coupled to a syringe.

15. The male luer connector and cap assembly of Claim 13, wherein the connecting portion comprises a threaded portion comprising a luer screw thread formed thereon and configured to be engaged with a counterpart luer screw thread formed on the male luer connector.

16. The male luer connector and cap assembly of Claim 13, wherein the connecting portion comprises a sleeve portion configured to be slip-fitted over a portion of the male luer connector.

17. The male luer connector and cap assembly of Claim 13, wherein the disinfectant comprises a disinfectant fluid absorbed in a matrix.

18. The male luer connector and cap assembly of Claim 13, wherein the sealing member comprises a peelable lid.

19. The male luer connector and cap assembly of Claim 13, wherein the sealing member comprises a hinged lid.

20. The male luer connector and cap assembly of Claim 13, wherein the male luer valve comprises a needleless valve.

21. The male luer connector and cap assembly of Claim 20, wherein the exposed portion comprises an exposed surface of the needleless valve.

22. The male luer connector and cap assembly of Claim 13, wherein the body portion of the male connector cap further comprises a cavity in communication with the male luer connector, wherein the body portion comprises an aperture providing an air passage from the cavity to the outside and allowing priming of an IV fluid delivery system connected to the male luer connector.
23. A method of disinfecting an exposed portion of a female luer connector using a cap for connection to a male luer, the method comprising:

   providing a male luer connector coupled to a male luer connector cap, the male luer connector cap having a chamber containing a disinfectant and a sealing member for sealing the disinfectant in the chamber, the chamber sized to receive an exposed portion of a female luer connector;

   at least partially opening the chamber by movement of the sealing member to expose the disinfectant; and

   causing an exposed portion of a female luer connector to come in contact with the disinfecting fluid in the chamber prior to the female luer connector mating with the male luer connector.

24. The method of Claim 23, wherein the female luer connector comprises a needleless valve.

25. The method of Claim 24, wherein the causing comprises applying a disinfectant swab containing the disinfecting fluid to an exposed surface of the needleless valve.

26. The method of Claim 23, wherein the causing comprises threadedly engaging the female luer connector to the male luer connector cap.

27. The method of Claim 23 further comprising decoupling the male luer connector cap from the male luer connector prior to the female luer connector mating with the male luer connector.

28. The method of Claim 27 further comprising priming an IV delivery system attached to the male luer connector prior to the decoupling.

29. The method of Claim 28, wherein the priming comprises purging air present in the IV delivery system via an aperture provided in the male luer connector cap.

30. A cap for connection to a male luer comprising:

   a connecting portion configured to be coupled to a male luer connector;
a body portion having a proximal end coupled to the connecting portion, a
distal end opposite to the proximal end, and a chamber formed between the proximal
and distal ends, the chamber containing a disinfectant;

a transition portion arranged and tapered to define a cavity between the
chamber and the connection portion; and

a sealing member coupled to the body portion at the distal end and configured
to prevent leakage of the disinfectant, wherein the chamber is configured to be at least
partially opened by movement of the sealing member and to provide an exposed
portion of a female luer connector access to the chamber containing the disinfectant,

wherein the body portion is sized to allow entry of the exposed portion of the
female luer connector into the chamber from the distal end.

31. The cap for connection of Claim 30, further comprising a partition in the body
portion arranged between the chamber and the transition portion to separate the
chamber from the transition portion.

32. The cap for connection of Claim 31 wherein the cavity is in fluid communication
with the male luer connector.

33. The cap for connection of Claim 32 wherein the body portion comprises an
aperture providing an air passage from the cavity to the outside and allowing priming
of an IV fluid delivery system connected to the male luer connector.

34. The cap for connection of Claim 31 wherein the body portion comprises a female
luer thread formed therein at the distal end, the female luer thread configured to be
engaged with a counterpart male thread of the female luer connector.