CLAIMS

1. A catheter assembly comprising:

a flexible catheter;

a catheter hub;

a needle having a sharp distal tip, the needle disposed in the flexible catheter and moving from a first position that exposes the needle to a second position;

an outer member that is configured to engage and disengage the catheter hub, the outer member engaging an outside surface of the catheter hub when the needle is in the first position;

an inner member movably disposed in the outer member, the inner member including an opposing member, and the opposing member engaging an inside surface of the catheter hub when the needle is in the first position; and

a needle protection member disposed in the inner member, the needle protection member enclosing at least a portion of the needle when the needle is in the second position; wherein

when the needle is moved to the second position, the inner member axially moves relative to the outer member causing the opposing member to disengage the catheter hub and allowing the outer member to disengage from the catheter hub.

2. The catheter assembly according to claim 1, wherein a catch in the outer member interlocks a protrusion on the catheter hub.

3. The catheter assembly according to claim 1, wherein when the opposing member is disposed in the catheter hub, the outer member engages the catheter hub.

4. The catheter assembly according to claim 1, wherein the needle protection member comprises a resilient clip.

5. The catheter assembly according to claim 4, wherein the needle biases the resilient clip into an open position before the needle reaches the second position.

6. The catheter assembly according to claim 4, wherein:
the resilient clip includes at least one arm; and
the needle biases the at least one arm into an open position before the needle reaches the second position.

7. The catheter assembly according to claim 4, wherein the resilient clip includes at least one tab that engages a shoulder in the outer member when the needle is in the first position.

8. The catheter assembly according to claim 7, wherein the at least one tab of the resilient clip disengages the shoulder in the outer member when the needle is in the second position.

9. The catheter assembly according to claim 1, wherein:
the needle further includes a deformation; and
the deformation is enclosed by the needle protection member when the needle is in the second position.

10. The catheter assembly according to claim 9, wherein the deformation in the needle is configured to cause the inner member to axially move relative to the outer member.

11. The catheter assembly according to claim 1, wherein
the outer member comprises an outer sleeve; and
the inner member comprises an inner sleeve.

12. A catheter assembly comprising:

a flexible catheter;

a catheter hub;

a needle having a sharp distal tip, the needle disposed in the flexible catheter and moving from a first position that exposes the needle to a second position;

an outer member configured to engage and disengage the catheter hub;

an inner member disposed in the outer member, the inner member having an opposing member that engages the catheter hub when the needle is in the first position; and

a needle protection member disposed in the inner member that encloses at least a portion of the needle when the needle is in the second position; wherein

when the needle is in the second position, the inner member axially moves relative to the outer member causing the opposing member to disengage the catheter hub and allowing the outer member to disengage from the catheter hub; and

in the second position, the inner member is in a distal most position in the outer member.

13. The catheter assembly according to claim 12, wherein

the outer member comprises an outer sleeve; and

the inner member comprises an inner sleeve.