CLAIMS

1. A catheter assembly comprising:

a flexible catheter;

a catheter hub including an inner surface;

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

a housing that is configured to engage and disengage the inner surface of the catheter hub; and

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

the housing and the needle protection member each directly engage the catheter hub in the first position; and

when the needle is moved to the second position, the housing and the needle protection member disengages the catheter hub.

2. The catheter assembly according to claim 1, wherein

the needle protection member includes a tab; and

the tab extends into and engages the inner surface of the catheter hub in the first position.

3. The catheter assembly according to claim 2, wherein

the catheter hub includes an outer surface; and

the housing engages the outer surface and the inner surface of the catheter hub in the first position.

4. The catheter assembly according to claim 2, wherein the tab disengages the inner surface of the catheter hub in the second position.

5. The catheter assembly according to claim 4, wherein the housing disengages the catheter hub after the tab disengages the inner surface of the catheter hub in the second position.

6. The catheter assembly according to claim 1, wherein

the needle protection member includes a hook;

the housing includes a protrusion; and

the hook engages the protrusion in the second position.

7. The catheter assembly according to claim 1, wherein

the housing includes a proximal wall having a hole;

a proximal portion of the needle protection member includes two holes; and

the holes of the needle protection member and the hole of the housing are aligned for the needle to travel therethrough.

8. The catheter assembly according to claim 7, wherein the proximal portion of the needle protection member is bent in a U shape.

9. The catheter assembly according to claim 8, wherein the U shaped portion of the needle protection member is secured between the proximal wall and a proximal end of the housing.

10. The catheter assembly according to claim 1, wherein the needle protection member is compressed to be disposed along on an inner surface of the housing in the first position.

11. A catheter assembly comprising:

a flexible catheter;

a catheter hub including an inner surface;

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

a housing that is configured to engage and disengage the catheter hub, the housing including a slot; and

a needle protection member having two arms and enclosing at least a portion of the needle when the needle is in the second position, the needle protection member including a tab; wherein

the two arms of the needle protection member extend into and engage the inner surface of the catheter hub in the first position; and

the tab engages the slot in the second position.

12. The catheter assembly according to claim 11, wherein when the needle is moved to the second position, the needle protection member disengages the inner surface of the catheter hub in order for the housing to disengage the catheter hub.

13. The catheter assembly according to claim 11, wherein when the needle is moved to the second position, the needle protection member moves axially.

14. The catheter assembly according to claim 11, further comprising
an inner sleeve surrounding the needle protection member; and
a recess disposed at a proximal portion of the catheter hub; wherein
the inner sleeve engages the recess in the first position.

15. The catheter assembly according to claim 14, wherein the inner sleeves moves axially to disengage the recess of the catheter hub in the second position.

16. The catheter assembly according to claim 14, wherein the inner sleeves is disposed in the housing.

17. A catheter assembly comprising:
a flexible catheter;
a catheter hub;
a needle having a distal tip, the needle disposed in the flexible catheter and moving from a first position that exposes the needle to a second position;
a housing that is configured to engage and disengage the catheter hub; and
a needle protection member disposed in the housing, the needle protection member enclosing at least a portion of the needle when the needle is in the second position; wherein
the housing engages the catheter hub when the needle is in the first position; and
when the needle is moved to the second position, the housing disengages the catheter hub; wherein
the housing includes a rotating latch that is configured to engage an inner surface of the catheter hub.

18. The catheter assembly according to claim 17, wherein when the needle is in the first position, the housing engages an inner surface and an outer surface of the catheter hub.

19. The catheter assembly according to claim 17, wherein when the needle is in the

first position, the needle protection member engages the rotating latch causing the rotating latch to engage the catheter hub.

20. The catheter assembly according to claim 17, wherein when the needle is in the second position, the needle protection member covers the distal tip of the needle, and the needle protection member disengages the rotating latch causing the rotating latch to disengage the catheter hub.