CLAIMS

1. A catheter assembly comprising:

a catheter;

a needle having a distal tip and disposed within the catheter;

a catheter hub connected to the catheter having the needle passing therethrough; and

a housing attachable to the catheter hub, wherein

an external surface of the catheter hub includes ~~and an internal surface of the housing each include at least~~ one of a channel member and a raised portion;

an internal surface of the housing includes an other of the channel member and the raised portion; wherein

the channel member and the raised portion ~~that~~ interfit to restrict motion between the catheter hub and the housing; ~~and~~

the channel member includes a first channel and a second channel separated by an axial gap; and

the channel member axially extends and narrows in width in a distal direction.

2. The catheter assembly of claim 1, wherein the internal surface of the housing includes the raised portion.

3. The catheter assembly of claim 1, wherein

a distal end of the raised portion includes a chamfer.

4. The catheter assembly of claim 1, wherein the raised portion has a thickness, a length and a depth.

5. The catheter assembly of claim 1, wherein

a distal end of the housing includes a support portion disposed at a substantially opposing side surface of the raised portion.

6. The catheter assembly of claim 5, wherein

the support portion and the raised portion limit movement of the catheter hub and the housing in at least one axis of freedom.

7. The catheter assembly of claim 1, wherein

a proximal end of the external surface of the catheter hub includes the channel member~~; and~~

~~the channel member axially extends and narrows in width in a distal direction~~.

8. The catheter assembly of claim 1, wherein

the first channel incudes a chamfer to aid in engaging the raised portion.

9. The catheter assembly of claim 1, wherein

the first channel includes a narrowing portion that gradually tightens an engagement between the channel member and the raised portion.

10. The catheter assembly of claim 1, wherein the channel member has a width, a length and a depth.

11. The catheter assembly of claim 1, wherein the first channel and the second channel are axially aligned and each have a width, a length and a depth.

12. The catheter assembly of claim 11, wherein the width of the first channel is substantially equal to the width of the second channel and the depth of the first channel is substantially equal to the depth of the second channel.

13. The catheter assembly of claim 1, wherein the first channel and the second channel limit movement of the catheter hub and the housing in at least one axis of freedom.

14. The catheter assembly of claim 1, wherein

the catheter hub includes luer threads and a collar, and

the channel member and the raised portion do not interfere with operation of the luer threads.

15. The catheter assembly of claim 14, wherein the channel member extends through a portion of the collar or a portion of the luer threads.

16. The catheter assembly of claim 1, wherein the housing comprises a needle protection member that encloses the distal tip of the needle.

17. The catheter assembly of claim 1, wherein the housing comprises a needle hub.

18. The catheter assembly of claim 1, wherein the housing comprises a grip.

19. A catheter assembly comprising:

a catheter;

a needle having a distal tip and disposed within the catheter;

a catheter hub connected to the catheter having the needle passing therethrough, the catheter hub including:

a valve that selectively permits or blocks a flow of fluid through the catheter; and

a valve actuator that moves between a first position and a second position; and

a housing attachable to the catheter hub, wherein

a proximal end of an external surface of the catheter hub includes an axially extending channel member that interfits with a raised portion on an internal surface of the housing to restrict motion between the catheter hub and the housing; and

the axially extending channel member narrows in width in a distal direction.

20. The catheter assembly of claim 19, further comprising a return member that returns the valve actuator from the second position to the first position.

21. The catheter assembly of claim 19, wherein the housing is a needle protection member that encloses the distal tip of the needle.