CLAIMS

1. A catheter assembly comprising:

a catheter adapter having a proximal end that includes a proximal opening, a distal end that includes a distal opening, an inner wall that extends between the proximal opening and the distal opening, and a lumen formed by the inner wall, wherein the catheter adapter is configured to receive a needle that includes a distal tip;

a flexible septum configured to be retained within a catheter adapter; and

an actuator configured to pass partially through the septum to open a blood control catheter valve, wherein the actuator includes multiple proximally-extending flexible retention arms that are biased in an outward position, wherein the flexible retention arms contact the inner wall of the catheter adapter when the flexible retention arms are in the outward position, wherein the flexible retention arms fold inwardly as the actuator moves distally through the septum and return to the outward position after the flexible retention arms have moved distally through the septum thereby retaining the actuator within the septum.

2. The catheter assembly of claim 1, wherein, prior to the actuator passing partially through the septum, the flexible retention arms are biased outwardly into one or more recesses formed in the inner wall of the catheter adapter thereby retaining the actuator within the catheter adapter.

3. The catheter assembly of claim 1, wherein the actuator is configured to pass partially through the septum to open the blood control catheter valve when a separate device is inserted distally into the catheter adapter, wherein the separate device has a male luer connector that inserts into the catheter adapter to contact and force the actuator partially through the septum as the separate device is connected to the catheter adapter.

4. The catheter assembly of claim 3, wherein the actuator includes one or more protrusions at a proximal end of the actuator, the one or more protrusions forming a surface against which the separate device contacts the actuator.

5. The catheter assembly of claim 1, wherein the actuator includes one or more channels formed in an exterior surface of the actuator, the one or more channels configured to receive the flexible retention arms when the flexible retention arms are folded inwardly.

6. The catheter assembly of claim 5, wherein the one or more channels have a depth such that, when the flexible retention arms are folded into the one or more channels, an exterior surface of the flexible retention arms is flush with an exterior surface of the actuator.

7. The catheter assembly of claim 1, wherein the actuator has a length that is less than a first length of the catheter adapter, the first length being the length between a proximal end of the catheter adapter and the position of the septum within the catheter adapter.

8. The catheter assembly of claim 1, wherein the flexible retention arms comprise two flexible retention arms formed on opposite sides of the actuator.

9. The catheter assembly of claim 1, wherein the catheter adapter is an intravenous catheter adapter.

10. An intravenous catheter assembly comprising:

a catheter adapter having a proximal end that includes a proximal opening, a distal end that includes a distal opening, an inner wall that extends between the proximal opening and the distal opening, and a lumen formed by the inner wall, wherein the catheter adapter is configured to receive a needle that includes a distal tip;

a flexible septum contained within the lumen of the catheter adapter, the septum dividing the lumen into a proximal chamber and a distal chamber, the septum preventing fluid from flowing between the proximal chamber and the distal chamber; and

an actuator positioned within the proximal chamber, the actuator including an internal channel that extends through a length of the actuator, the internal channel forming a path for fluid flow through the actuator, the actuator being configured to pass partially through the septum when a separate device is inserted distally into the catheter adapter to thereby open a fluid pathway through the septum between the distal chamber and proximal chamber, the actuator including multiple flexible retention arms that extend proximally from a distal end of the actuator, the flexible retention arms being biased in an outward position, the flexible retention arms contacting the inner wall of the catheter adapter when the flexible retention arms are in the outward position, the flexible retention arms folding inwardly as the actuator moves distally through the septum and returning to the outward position after the flexible

retention arms have moved distally through the septum thereby retaining the actuator within the septum and maintaining the fluid pathway through the septum.

11. The intravenous catheter assembly of claim **10**, further comprising:

a needle contained within the catheter adapter, the needle passing through the internal channel of the actuator and through the septum.

12. The intravenous catheter assembly of claim **11**, further comprising:

a needle shield attached to the catheter adapter, the needle shield configured to retain the needle after the needle is retracted from the catheter adapter.

13. The intravenous catheter assembly of claim **11**, wherein the septum is configured to reseal after the needle is retracted from the catheter adapter thereby preventing fluid flow through the catheter adapter until the actuator passes partially through the septum.

14. The intravenous catheter assembly of claim **10**, wherein, prior to the actuator passing partially through the septum, the flexible retention arms are biased outwardly into one or more recesses formed in an internal wall of the catheter adapter thereby retaining the actuator within the catheter adapter.

15. The intravenous catheter assembly of claim **10**, wherein the separate device has a male luer connector that inserts into the catheter adapter to contact and force the actuator partially through the septum as the separate device is connected to the catheter adapter.

16. The intravenous catheter assembly of claim **10**, wherein the actuator includes one or more channels formed in an exterior surface of the actuator, the one or more channels configured to receive the flexible retention arms when the flexible retention arms are folded inwardly.

17. A catheter adapter having a blood control catheter valve, the blood control catheter valve comprising:

an inner wall that extends between a proximal opening and a distal opening of the catheter adapter;

a flexible septum positioned within a lumen of the catheter adapter, the septum dividing the lumen into a proximal chamber and a distal chamber, the septum preventing fluid from flowing between the proximal chamber and the distal chamber; and

an actuator positioned within the proximal chamber, the actuator including an internal channel that extends through a length of the actuator, the internal channel forming a path for fluid flow through the actuator, the actuator being configured to pass partially through the septum when a separate device is inserted distally into the catheter adapter to thereby open a fluid pathway through the septum between the distal chamber and proximal chamber, the actuator including multiple proximally-extending flexible retention arms that are biased in an outward position, the flexible retention arms folding inwardly as the actuator passes distally through the septum and returning to the outward position after the one or more flexible retention arms have passed distally through the septum thereby retaining the actuator within the septum and maintaining the fluid pathway through the septum, wherein, prior to the actuator passing partially through the septum, the one or more flexible retention arms are biased outwardly into one or more recesses formed in the inner wall of the catheter adapter thereby retaining the actuator within the catheter adapter, wherein the flexible retention arms contact an inner wall of the catheter adapter when the flexible retention arms are in the outward position, wherein the catheter adapter is configured to receive a needle that includes a distal tip.