CLAIMS

1. A catheter assembly, comprising:

a catheter adapter, comprising a distal end, a proximal end, and a lumen extending through the distal end and the proximal end;

a septum disposed within the lumen, wherein the septum comprises a distal end, a proximal end, and a barrier disposed between the distal end of the septum and the proximal end of the septum, wherein the barrier divides an interior of the septum into a distal cavity and a proximal cavity, wherein the barrier comprises a slit, wherein the septum is configured to move from a proximal position to a distal position in response to insertion of a medical device into the proximal end of the catheter adapter;

a septum actuator fixed within the lumen, wherein the septum actuator comprises a tubular body and an annular lip extending outwardly from an outer surface of the tubular body, wherein the annular lip is disposed at a proximal end of the septum actuator, wherein the septum actuator is configured to penetrate the slit in response to movement of the septum from the proximal position to the distal position; and

a spring disposed within the lumen distal to the septum, wherein when the medical device is maximally inserted into the proximal end of the catheter adapter, the annular lip penetrates the slit but does not bypass the barrier, such that the annular lip remains in contact with the barrier when the septum is in the distal position, wherein the spring is configured to return the septum from the distal position to the proximal position in response to removal of the medical device from the proximal end of the catheter adapter.

2. The catheter assembly of claim 1, wherein the spring surrounds the septum actuator.

3. The catheter assembly of claim 1, wherein the spring and the septum are constructed of an elastomer.

4. The catheter assembly of claim 1, wherein the spring and the septum are constructed of silicon.

5. The catheter assembly of claim 1, wherein the spring and the septum are monolithically formed as a single unit.

6. The catheter assembly of claim 1, wherein an outer surface of the tubular body is smooth.

7. The catheter assembly of claim 1, wherein the annular lip comprises a generally truncated cone shape.

8. The catheter assembly of claim 1, wherein an inner surface of the septum forming the distal cavity comprises a protrusion, wherein the annular lip is configured to pass the protrusion in response to the septum being moved from the proximal position to the distal position.

9. The catheter assembly of claim 1, wherein a portion of an inner surface of the septum forming the distal cavity is smooth, wherein the portion is distal to the barrier, wherein the portion is aligned with or proximal to the annular lip when the septum is disposed in the proximal position.

10. The catheter assembly of claim 1, wherein the spring comprises a coil, wherein the coil surrounds the septum actuator, wherein the coil comprises a helical shape or a plurality of waves.

11. The catheter assembly of claim 10, wherein the coil is constructed of metal.

12. A catheter assembly, comprising:

a catheter adapter, comprising a distal end, a proximal end, and a lumen extending through the distal end and the proximal end;

a septum disposed within the lumen, wherein the septum comprises a distal end, a proximal end, and a barrier disposed between the distal end of the septum and the proximal end of the septum, wherein the barrier divides an interior of the septum into a distal cavity and a proximal cavity, wherein the barrier comprises a slit, wherein the septum is configured to move from a proximal position to a distal position in response to insertion of a medical device into the proximal end of the catheter adapter;

a septum actuator fixed within the lumen, wherein the septum actuator comprises a tubular body and an annular lip extending outwardly from an outer surface of the tubular body, wherein the annular lip is disposed at a proximal end of the septum actuator, wherein the septum actuator is configured to penetrate the slit in response to movement of the septum from the proximal position to the distal position; and

a spring disposed within the lumen distal to the septum, wherein when the medical device is maximally inserted within the proximal end of the catheter adapter, the annular lip penetrates the slit but does not bypass the barrier, such that the annular lip remains in contact with the barrier when the septum is in the distal position, wherein the spring is configured to return the septum from the distal position to the proximal position in response to removal of the medical device from the proximal end of the catheter adapter,

wherein a portion of an inner surface of the septum forming the distal cavity is smooth, wherein the portion is distal to the barrier, wherein the portion is aligned with or proximal to the annular lip when the septum is disposed in the proximal position.

13. The catheter assembly of claim 12, wherein the spring surrounds the septum actuator.

14. The catheter assembly of claim 13, wherein the spring and the septum are monolithically formed as a single unit.

15. The catheter assembly of claim 14, wherein the spring and the septum are constructed of an elastomer.

16. The catheter assembly of claim 15, wherein the annular lip comprises a generally truncated cone shape.

17. The catheter assembly of claim 12, wherein the spring comprises a coil, wherein the coil surrounds the septum actuator.