

CLAIMS

1. A catheter assembly, comprising:
a catheter adapter comprising a distal end, a proximal end, and a lumen extending therethrough;
a septum slidably disposed within the lumen, the septum comprising a distal end forming a distal cavity, a proximal end forming a proximal cavity, and a barrier disposed between the distal cavity and the proximal cavity, wherein a distal face of the barrier comprises a protrusion that is contained within the distal cavity and spaced apart from a sidewall that forms the distal cavity, wherein the barrier comprises a slit extending through the protrusion for selectively opening fluid communication between the distal cavity and the proximal cavity; and
a septum actuator that inserts into the distal cavity, the septum being configured to slide distally to force the protrusion against the septum actuator thereby causing the septum actuator to pass through the slit.
2. The catheter assembly of claim 1, wherein the protrusion is disposed at a center of the distal face, wherein the slit extends through a center of the protrusion.
3. The catheter assembly of claim 1, wherein the protrusion comprises a round dome.
4. The catheter assembly of claim 2, wherein a diameter of the round dome is greater than a diameter of the slit.
5. The catheter assembly of claim 1, wherein the protrusion includes a truncated dome.
6. The catheter assembly of claim 4, wherein a diameter of a truncated portion of the truncated dome is greater than a diameter of the slit.
7. The catheter assembly of claim 1, wherein an outer surface of the protrusion is disposed at an acute angle with respect to a transverse axis of the catheter assembly.

8. The catheter assembly of claim 1, wherein in response to reflux blood flowing against the protrusion, opposing faces of the slit press against each other more tightly to seal the slit.

9. The catheter assembly of claim 1, wherein the distal end of the septum is secured around the septum actuator.

10. The catheter assembly of claim 1, wherein a proximal face of the barrier is flat.

11. The catheter assembly of claim 1, wherein the protrusion is symmetric.

12. A catheter assembly, comprising:

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

a septum actuator fixed within the lumen of the catheter adapter;

a septum slidably disposed within the lumen, the septum comprising a distal end forming a distal cavity into which the septum actuator extends, a proximal end forming a proximal cavity, a barrier disposed between the distal end of the septum and the proximal end of the septum, and a slit disposed within the barrier for selectively opening fluid communication between the distal cavity and the proximal cavity, wherein a distal face of the barrier comprises a protrusion that is contained within the distal cavity and spaced apart from a sidewall that forms the distal cavity, wherein the septum is configured to move between a proximal position and a distal position in response to insertion of a separate device into the proximal end of the catheter adapter, wherein the slit extends through a center of the protrusion such that the septum actuator extends through the center of the protrusion when the septum is disposed in the distal position.

13. The catheter assembly of claim 12, wherein the protrusion contacts the septum actuator when the septum is in the proximal position prior to insertion of the separate device.

14. The catheter assembly of claim 12, wherein the protrusion is adjacent the septum actuator when the septum is in the proximal position prior to insertion of the separate device.

15. The catheter assembly of claim 12, wherein the protrusion comprises a round dome.

16. The catheter assembly of claim 12, wherein the distal end of the septum is secured around the septum actuator.

17. The catheter assembly of claim 12, wherein the protrusion includes a truncated dome.

18. The catheter assembly of claim 17, wherein a diameter of a truncated portion of the truncated dome is greater than a diameter of the slit.

19. The catheter assembly of claim 12, wherein an outer surface of the protrusion is disposed at an acute angle with respect to a transverse axis of the catheter assembly.

20. A catheter assembly, comprising:
a catheter adapter comprising a distal end, a proximal end, and a lumen extending therethrough;

a septum slidably disposed within the lumen, the septum comprising a distal end forming a distal cavity, a proximal end forming a proximal cavity, and a barrier disposed between the distal cavity and the proximal cavity, wherein a distal face of the barrier comprises a protrusion that is contained within the distal cavity and spaced apart from a sidewall that forms the distal cavity, wherein the barrier comprises a slit extending through the protrusion for selectively opening fluid communication between the distal cavity and the proximal cavity; and

a septum actuator that inserts into the distal cavity, the septum being configured to slide distally to force the protrusion against the septum actuator thereby causing the septum actuator to pass through the slit;

wherein the distal end of the septum is secured around the septum actuator to thereby enclose the distal cavity while the septum actuator is inserted into the distal cavity.