CLAIMS

1. A catheter assembly, comprising:

a catheter adapter having a distal end and a wall surface defining an internal space;

a catheter tube extending from the distal end of the catheter adapter;

a septum disposed within the internal space of the catheter adapter, the septum dividing the internal space of the catheter adapter into a distal chamber and a proximal chamber; and

a septum activator located in the internal space of the catheter adapter and having a proximal end, a distal end, a length between the proximal end and the distal end of the septum activator, a proximal section proximate the proximal end of the septum activator, a distal section proximate the distal end of the septum activator, a first position in the internal space, and a second position in the internal space; the proximal section comprising an elastically compressible portion and a surface for pushing against by a coupler, and the distal section being more rigid than the proximal section;

a needle attached to a needle hub, said needle comprising a needle shaft and a needle tip and the needle shaft extending through the catheter adapter, the septum activator, the septum, and the catheter tube in a ready to use position in which the needle tip extends out a distal end of the catheter tube;

wherein the length of the septum activator in the first position is a first position length and the length of the septum activator in the second position is a second position length, which is shorter than the first position length;

wherein the elastically compressible portion of the septum activator, in the first position, is configured to be compressed to a compressed state in which the length of the septum activator is shortened to the second position length when a coupler contacts and applies a force in the distal direction to the proximal end of the septum activator so as to urge the distal end of the septum activator against the septum to deform the septum and move the septum activator to the second position; and

wherein the elastically compressible portion of the septum activator elastically expands and the septum activator lengthens from the compressed state and from the second positionlength when the coupler is removed from contact with the septum activator.

2. The catheter assembly as in Claim 1, wherein the elastically compressible portion of the septum activator comprises a plurality of elongate, spaced apart legs configured to deflect

when the coupler applies the force to the septum, thereby decreasing an axial length of the elastically compressible portion.

3. The catheter assembly as in Claim 1, wherein an aperture is formed between adjacent spaced apart legs.

4. The catheter assembly as in Claim 3, wherein the spaced apart legs extend a majority of the length of the septum activator.

5. The catheter assembly as in Claim 1, wherein an expansion groove is formed in the proximal chamber of the catheter adapter, the expansion groove having a distal end, and a portion of the elastically compressible portion applies a force against the distal end of the expansion groove in opposition to the force applied by the coupler in the distal direction.

6. The catheter assembly as in Claim 5, wherein the plurality of elongate, spaced apart legs extend a majority of the length of the septum activator.

7. A catheter assembly, comprising:

a catheter adapter having a distal end and a wall surface defining an internal space;

a septum comprising at least one slit located in the internal space of the catheter adapter;

a catheter tube extending from the distal end of the catheter adapter;

a septum activator located in the internal space of the catheter adapter and having a proximal end that is movable between an at rest position and an actuated position, a compressible portion, a distal end, and a nose section at the distal end of the septum activator for opening the at least one slit if the septum;

a needle attached to a needle hub, said needle comprising a needle shaft and a needle tip and the needle shaft extending through the catheter adapter, the septum activator, the septum, and the catheter tube in a ready to use position in which the needle tip extends out a distal end of the catheter tube;

wherein a location, relative to the septum, of the proximal end of the septum activator at the at rest position is proximal of a location, relative to the septum, of the proximal end of the septum activator at the actuated position;

wherein the compressible portion has a proximal end and a distal end and a length between the proximal end and the distal end of the compressible portion, the compressible

portion is configured to be compressed to a compressed configuration in which the length of the compressible portion is reduced when a coupler contacts and applies a distal force to the proximal end of the septum activator so as to urge the septum activator distally into the septum to deform the septum; and

wherein the catheter adapter further comprises a shoulder formed in the internal space of the catheter adapter to be abutted by the compressible portion when the septum activator is positioned in at least the actuated position.

8. The catheter assembly as in Claim 7, further comprising a movable member figured to be moved with the septum activator and wherein the movable member is integrally formed with the septum activator.

9. A catheter assembly, comprising:

a catheter adapter having a distal end and a wall surface defining an internal space;

a septum located in the internal space of the catheter adapter and comprising at least one slit; a catheter tube extending from the distal end of the catheter adapter;

a septum activator located in the internal space of the catheter adapter, the septum activator having a septum activator lumen and comprising a proximal end, a distal end, a proximal opening proximate the proximal end, a distal opening at the distal end, and a compressible portion adjacent the proximal end;

a shoulder in the internal space abutted by a distal surface of the septum to fix an outer perimeter of the septum from axial movement;

a needle attached to a needle hub, said needle comprising a needle shaft and a needle tip and the needle shaft extending through the catheter adapter, the septum activator, the septum, and the catheter tube in a ready to use position in which the needle tip extends out a distal end of the catheter tube;

wherein the compressible portion of the septum activator in an at rest configuration is configured to be compressed into a compressed configuration when a coupler contacts and applies a force to the proximal end of the septum activator so as to urge the septum activator into the septum so as to deform the septum and form a fluid pathway through the septum activator lumen and the at least one slit;

wherein a length of the septum activator between the proximal end of the septum activator and the distal end of the septum activator in the compressed configuration is less than a length of the septum activator between the proximal end of the septum activator and the distal end of the septum activator in the at rest configuration; and

wherein when the coupler is removed from contact with the septum activator, the compressible portion elastically expands from the compressed configuration to the at rest configuration.

10. The catheter assembly as in Claim 9, wherein the septum defines a one-way check valve and wherein the one-way check valve comprises a hinged flap.

11. The catheter assembly as in Claim 9, wherein the septum activator comprises a distal side opening formed through a side wall and spaced distally from a proximal side opening.

12. The catheter assembly as in Claim 11, wherein a blood flashback chamber is defined between a side wall of the septum activator and an inner surface of the catheter and wherein distally-directed fluid flow can flow from the flashback chamber through the distal side opening and back into the septum activator lumen.

13. The catheter assembly as in Claim 10, wherein the one-way valve comprises a hydrophobic surface.