

CLAIMS

1. A catheter system, comprising:
 - a needle comprising:
 - a proximal end;
 - a distal end; and
 - an opening disposed along the needle between the proximal end and the distal end of the needle, wherein the opening is configured to facilitate flashback visualization;
 - a catheter adapter body formed of a compliant material;
 - an inner chamber disposed within the catheter adapter body;
 - a compression resistant septum comprising a distal end formed in the compliant material of the catheter adapter body, the compression resistant septum further comprising a proximal end, wherein the distal end of the compression resistant septum and the catheter adapter body are integrally formed of the same compliant material, the compression resistant septum disposed toward the proximal end of the catheter adapter body;
 - a lumen formed through the compression resistant septum; and
 - a compression cap coupled to the compression resistant septum, the compression cap configured to impart a radial compression force to the compression resistant septum such that the lumen narrows and seals when the needle is removed from the lumen.
2. The catheter system of claim 1, wherein the catheter adapter body is integrally formed from a compression set resistant elastomeric material.
3. The catheter system of claim 2, wherein the compression set resistant elastomeric material comprises one of a thermoplastic elastomer material, a liquid silicone rubber material, and a polyisoprene material.
4. The catheter system of claim 1, wherein the compression cap is a separate piece that is coupled to the compression resistant septum.

5. The catheter system of claim 4, wherein the compression cap is coupled to the compression resistant septum through an over-molding manufacturing process.
6. The catheter system of claim 1, further comprising:
one or more stabilization members coupled to the catheter adapter body and configured to stabilize the catheter adapter body with respect to a patient;
a port in fluid communication with the inner chamber and configured to receive an extension tube, the port comprising one of a Y-shaped port, a T-shaped port, a V-shaped port and a parallel-shaped port;
a catheter lumen coupled to and extending from the distal end of the catheter adapter body;
and
a catheter wedge disposed toward the distal end of the catheter adapter body and configured to guide the needle into the catheter lumen as the needle is inserted through the catheter adapter body.
7. A catheter system, comprising:
a needle comprising:
a proximal end;
a distal end; and
an opening disposed along the needle between the proximal end and the distal end of the needle, wherein the opening is configured to facilitate flashback visualization;
a catheter adapter body formed of a compliant material;
an inner chamber disposed within the catheter adapter body;
a compression resistant septum comprising a distal end formed in the compliant material of the catheter adapter body, the compression resistant septum further comprising a proximal end, wherein the distal end of the compression resistant septum and the catheter adapter body are integrally formed of the same compliant material, the compression resistant septum disposed toward the proximal end of the catheter adapter body;
a slit formed through the compression resistant septum; and

a compression cap coupled to the compression resistant septum, the compression cap configured to impart a radial compression force to the compression resistant septum such that the slit narrows and seals when the needle is removed from the lumen.

8. The catheter system of claim 7, wherein the catheter adapter body is integrally formed from a compression set resistant elastomeric material.
9. The catheter system of claim 8, wherein the compression set resistant elastomeric material comprises one of a thermoplastic elastomer material, a liquid silicone rubber material, and a polyisoprene material.
10. The catheter system of claim 7, wherein the compression cap is a separate piece that is coupled to the compression resistant septum.
11. The catheter system of claim 10, wherein the compression cap is coupled to the compression resistant septum through an over-molding manufacturing process.