CLAIMS

We claim:

1. A catheter system, comprising:

a catheter adapter, comprising a distal end, a proximal end, a lumen extending through the distal end and the proximal end, and a side port in fluid communication with the lumen;

a catheter extending distally from the catheter adapter;

a septum disposed within the lumen of the catheter adapter, wherein the septum comprises a first slit and a second slit generally parallel to the first slit, wherein the first slit is generally aligned with a longitudinal axis of the catheter, wherein the second slit is offset from the longitudinal axis of the catheter;

a needle hub; and

an introducer needle secured within the needle hub, wherein the introducer needle is aligned with a longitudinal axis of the catheter and extends through the catheter and the first slit of the septum.

2. The catheter system of claim 1, wherein the septum comprises a generally elliptical shape with a cut along a plane angled with respect to the longitudinal axis of the catheter.

3. The catheter system of claim 2, wherein the cut forms a first face at a distal end of the septum, wherein the distal end of the septum comprises the first face and a second face, wherein the second face is proximate the first face and generally perpendicular to the longitudinal axis of the catheter.

4. The catheter system of claim 3, wherein the septum comprises a tunnel extending along the first face, wherein the tunnel extends from the side port towards the longitudinal axis of the catheter.

5. The catheter system of claim 1, wherein the catheter adapter comprises a slot aligned with the second slit and extending from a proximal end of the catheter adapter.

6. The catheter system of claim 5, further comprising a winged needle set, comprising:

a body;

a tab extending outwardly from the body, wherein the tab is disposed within the slot;

a needle extending distally from the body and through the second slit of the septum;

an extension tube extending from the body.

7. The catheter system of claim 6, wherein the winged needle set further comprises:

an adapter coupled to a proximal end of the extension tube; and

a plug plugging a proximal end of the adapter, wherein the proximal end of the plug is configured to couple to a blood collection device, wherein the plug provides air venting of the winged needle set.

8. The catheter system of claim 6, wherein a distal end of the needle is blunt.

9. The catheter system of claim 6, wherein a distal end of the needle is sharp.

10. The catheter system of claim 1, wherein the proximal end of the catheter adapter comprises a proximal opening, wherein the longitudinal axis of the catheter is offset from a center of the proximal opening.

~~11. A method of collecting blood, comprising:~~

~~priming a portion of a catheter system to a prime stop point, wherein the catheter system comprises:~~

~~a catheter adapter, comprising a distal end, a proximal end, a lumen extending through the distal end and the proximal end, and a side port in fluid communication with the lumen, wherein the prime stop point is proximate the side port;~~

~~a catheter extending distally from the catheter adapter;~~

~~a septum disposed within the lumen of the catheter adapter, wherein the septum comprises a first slit and a second slit generally parallel to the first slit, wherein the first slit is generally aligned with a longitudinal axis of the catheter, wherein the second slit is offset from the longitudinal axis of the catheter;~~

~~a needle hub;~~

~~an introducer needle secured within the needle hub, wherein the introducer needle is aligned with a longitudinal axis of the catheter and extends through the catheter and the first slit of the septum;~~

~~after priming the portion of the catheter system to the prime stop point, inserting the catheter system into vasculature of a patient;~~

~~after inserting the catheter system into vasculature of the patient, removing the needle hub and introducer needle from the catheter system;~~

~~after removing the needle hub and the introducer needle from the catheter system, collecting blood using a winged needle set, wherein the winged needle set comprises:~~

~~a body;~~

~~a needle extending distally from the body and through the second slit of the septum;~~

~~an extension tube extending from the body;~~

an adapter coupled to a proximal end of the extension tube;

after collecting blood using the winged needle set, removing the winged needle set from the catheter system.

12. The method of claim 11, wherein when the winged needle set is removed from the catheter system, blood is disposed within the lumen distal to the septum and proximate the prime stop point.

13. The method of claim 11, wherein the septum comprises a generally elliptical shape with a cut along a plane angled with respect to the longitudinal axis of the catheter.

14. The method of claim 13, wherein the cut forms a first face at a distal end of the septum, wherein the distal end of the septum comprises the first face and a second face, wherein the second face is proximate the first face and generally perpendicular to the longitudinal axis of the catheter.

15. The method of claim 13, wherein the septum comprises a tunnel extending along the first face, wherein the tunnel extends from the side port towards the longitudinal axis of the catheter.

16. The method of claim 11, wherein the catheter adapter comprises a slot aligned with the second slit and extending from a proximal end of the catheter adapter, wherein the winged needle set further comprises a tab extending outwardly from the body, wherein the tab is disposed within the slot.

17. The method of claim 11, wherein the winged needle set further comprises a plug plugging a proximal end of the adapter, wherein the proximal end of the plug is configured to couple to a blood collection device, wherein the plug provides air venting of the winged needle set.

~~18. The method of claim 17, wherein a distal end of the needle is blunt.~~

~~19. The method of claim 17, wherein a distal end of the needle is sharp.~~

~~20. The method of claim 11, wherein the proximal end of the catheter adapter comprises a proximal opening, wherein the longitudinal axis of the catheter is offset from a center of the proximal opening.~~