CLAIMS

We claim:

1. A blood collection system, comprising:

a needle assembly, comprising a needle configured to receive an evacuated blood collection tube;

a tubing, comprising a distal end and a proximal end, wherein the proximal end is coupled to the needle assembly, wherein the tubing comprises a first flow channel and a second flow channel, wherein the first flow channel is configured to collapse at a lower pressure differential than the second flow channel.

2. The blood collection system of claim 1, wherein a fluidic resistance of the first flow channel is less than a fluidic resistance of the second flow channel.
3. The blood collection system of claim 2,wherein the first flow channel is formed by a first wall and a shared wall, wherein the second flow channel is formed by a second wall and the shared wall, wherein the first wall comprises a lower durometer than the second wall.
4. The blood collection system of claim 3, wherein the second flow channel comprises a bore hole extending from the distal end of the tubing to the proximal end of the tubing.
5. The blood collection system of claim 1, further comprising a blood collection tube holder coupled to the needle assembly, wherein the blood collection tube holder surrounds the needle.
6. The blood collection system of claim 1, further comprising a catheter assembly, wherein the catheter assembly comprises:

a catheter adapter, comprising a distal end, a proximal end, and a lumen extending through the distal end of the catheter adapter and the proximal end of the catheter adapter, wherein the distal end of the tubing is coupled to the catheter adapter; and

a catheter extending distally from the distal end of the catheter adapter.

7. The blood collection system of claim 1, further comprising a male luer adapter coupled to the distal end of the tubing and a female luer adapter coupled to the proximal end of the tubing.

8. A blood collection system, comprising:

a needle assembly, comprising a needle configured to receive an evacuated blood collection tube;

an outer tubing, comprising a distal end and a proximal end, wherein the proximal end is coupled to the needle assembly,

an inner tubing disposed within the outer tubing, wherein an inner diameter of the outer tubing is greater than an outer diameter of the inner tubing, wherein a first flow channel extends between the outer tubing and the inner tubing, wherein a second flow channel extends through the inner tubing, wherein the first flow channel is configured to collapse at a different pressure differential than the second flow channel.

9. The blood collection system of claim 8, wherein the outer tubing comprises a lower durometer than the inner tubing, wherein the first flow channel is configured to collapse at a lower pressure differential than the second flow channel, wherein at the lower pressure differential, the outer tubing contacts the inner tubing to close at least a portion of the first flow channel.

10. The blood collection system of claim 8, wherein the outer tubing comprises a greater durometer than the inner tubing, wherein the second flow channel is configured to collapse at a lower pressure differential than the first flow channel.
11. The blood collection system of claim 10, wherein a distal end of the inner tubing comprises a duck bill valve.
12. The blood collection system of claim 8, further comprising a blood collection tube holder coupled to the needle assembly, wherein the blood collection tube holder surrounds the needle.
13. The blood collection system of claim 8, further comprising a catheter assembly, wherein the catheter assembly comprises:

    a catheter adapter, comprising a distal end, a proximal end, and a lumen extending through the distal end of the catheter adapter and the proximal end of the catheter adapter, wherein the distal end of the tubing is coupled to the catheter adapter; and

    a catheter extending distally from the distal end of the catheter adapter.
14. The blood collection system of claim 8, further comprising a male luer adapter coupled to the distal end of the tubing and a female luer adapter coupled to the proximal end of the tubing.