CLAIMS

1. A catheter assembly, comprising:

a catheter adapter, comprising:

a body, comprising a distal end, a proximal end, and a lumen extending through the distal end and the proximal end; and

a side port extending outwardly from the body and disposed between the distal end and the proximal end, wherein the side port comprises an outer opening;

a valve disposed within the side port, wherein the valve comprises a channel extending through the valve;

a cannula fixed within the side port and disposed within the channel, wherein the cannula comprises a plurality of openings, wherein the plurality of openings are within the valve when the valve is in a first position, wherein the valve is configured to compress to a second position in which the valve is below the plurality of openings and the plurality of openings are exposed from within the valve; and

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

2. The catheter assembly of claim 1, wherein the side port and the body are monolithically formed as a single unit.
3. The catheter assembly of claim 2, wherein the catheter assembly further comprises another valve, wherein the other valve is generally cylindrical and disposed within the lumen.
4. The catheter assembly of claim 2, wherein the valve is constructed of rubber.
5. The catheter assembly of claim 4, wherein the valve comprises a first end, a second end, and an accordion portion between the first end and the second end.

6. The catheter assembly of claim 5, wherein a diameter of the first end and a diameter of the second end are greater than a diameter of the accordion portion.
7. The catheter assembly of claim 6, wherein the valve further comprises a rim, wherein the side port comprises a groove, wherein the rim is disposed within the groove to secure the valve within the side port.
8. The catheter assembly of claim 1, wherein the cannula comprises a blunt, closed end, wherein the blunt, closed end of the cannula seals an end of the channel.
9. The catheter assembly of claim 8, wherein the blunt, closed end has a first circumference, wherein the end of the channel has a second circumference approximately equal to the first circumference.
10. The catheter assembly of claim 8, wherein the opening is a first opening, wherein the cannula comprises a second opening and a third opening, wherein the first opening, the second opening, and the third opening are spaced apart around a circumference of the cannula proximate the blunt, closed end.
11. The catheter assembly of claim 8, wherein the catheter assembly further comprises a base fixed to the cannula and comprising a hole, wherein the opening extends along a length of the cannula from the blunt, closed end to the base, wherein the opening is aligned with the hole.
12. The catheter assembly of claim 8, wherein the channel is generally semi-cylindrical.
13. The catheter assembly of claim 12, wherein the blunt, closed end of the cannula is generally semi-circular, wherein the end of the channel is generally semi-circular.
14. A catheter assembly, comprising:

    a catheter adapter, comprising:

a body, comprising a distal end, a proximal end, and a lumen extending through the distal end and the proximal end; and

a side port extending outwardly from the body and disposed between the distal end and the proximal end, wherein the side port comprises an outer opening;

a valve disposed within the side port, wherein the valve comprises a channel extending through the valve;

a cannula fixed within the side port and disposed within the channel, wherein the cannula comprises a first opening and a second opening, wherein the first opening and the second opening are within the valve when the valve is in a first position, wherein the valve is configured to compress to a second position in which the valve is below the first opening and the second opening and the plurality of openings are exposed from within the valve, wherein the cannula comprises a blunt, closed end, wherein the blunt, closed end of the cannula seals an end of the channel; and

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

15. The catheter assembly of claim 14, wherein the cannula comprises an annular body, wherein the first opening and the second opening are disposed between the blunt, closed end of the cannula and the annular body.
16. The catheter assembly of claim 14, wherein the side port and the body are monolithically formed as a single unit.
17. The catheter assembly of claim 14, wherein the valve comprises a first end, a second end, and an accordion portion between the first end and the second end.
18. A catheter assembly, comprising:

a catheter adapter, comprising:

a body, comprising a distal end, a proximal end, and a lumen extending through the distal end and the proximal end; and

a side port extending outwardly from the body and disposed between the distal end and the proximal end, wherein the side port comprises an outer opening;

a valve disposed within the side port, wherein the valve comprises a channel extending through the valve, wherein the channel is generally semi-cylindrical;

a cannula fixed within the side port and disposed within the channel, wherein the cannula comprises an opening, wherein the valve is configured to compress to expose the opening from within the valve, wherein the cannula comprises a blunt, closed end, wherein the blunt, closed end of the cannula seals an end of the channel; and

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

19. The catheter assembly of claim 18, wherein the catheter assembly further comprises a base fixed to the cannula and comprising a hole, wherein the opening extends along a length of the cannula from the blunt, closed end to the base, wherein the opening is aligned with the hole
20. The catheter assembly of claim 18, wherein the side port and the body are monolithically formed as a single unit.