CLAIMS

1. A vascular access device, comprising:

a catheter adapter extending along a longitudinal axis and comprising a proximal end, a distal end, and a lumen extending therebetween;

a port opening formed in a surface of the catheter adapter and in fluid communication with a side port of the catheter adapter and the lumen, the port opening comprising a structural geometry to direct a fluid into the lumen in a proximal direction; and

an elastomeric port valve disposed within the lumen and sealing the port opening, the elastomeric port valve configured to deform in response to a transverse force applied thereto such that a proximal gap is created between an inner wall forming the lumen and a proximal side of the elastomeric port valve, wherein the proximal gap opens a fluid path.

2. The vascular access device of claim 1, wherein the structural geometry comprises a sloped surface to direct the fluid into the lumen in the proximal direction.
3. The vascular access device of claim 2, wherein the sloped surface extends in the proximal direction from a distal wall of the side port to the port opening.
4. The vascular access device of claim 2, wherein the sloped surface extends in a transverse direction from a position on the distal wall that is elevated relative to the port opening along a transverse axis, to a location adjacent to the port opening.
5. The vascular access device of claim 1, wherein the port opening is configured to couple to a syringe to deliver the fluid to the fluid path.
6. The vascular access device of claim 1, wherein the structural geometry comprises one of a half-circle shape and a pie shape.

7. The vascular access device of claim 1, wherein the structural geometry comprises a rib extending across at least a portion of the port opening to direct the fluid in the proximal direction through the port opening.
8. The vascular access device of claim 7, wherein the port opening is disposed proximate to a proximal wall of the side port.
9. The vascular access device of claim 7, wherein the port opening comprises a periphery smaller than a periphery of a distal end of the side port such that the port opening comprises a closed portion and an open portion.