

CLAIMS

1. A catheter assembly, comprising:

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

a catheter extending from the distal end, the catheter comprising a proximal end, a tip, and a length of tubing therebetween, wherein the length of tubing comprises at least one position indicator to indicate a position of the catheter relative to a vasculature; and

an introducer needle extending through the length of tubing and comprising a sharp distal tip configured to introduce the catheter into the vasculature.

2. The catheter assembly of claim 1, wherein the at least one position indicator comprises at least one marking disposed on an outer surface of the length of tubing.

3. The catheter assembly of claim 2, wherein the at least one marking is selected from the group consisting of a colored band, a tick mark, and a graduated mark.

4. The catheter assembly of claim 2, wherein the at least one marking comprises a plurality of non-uniformly spaced markings.

5. The catheter assembly of claim 2, wherein the at least one marking comprises a plurality of uniformly spaced markings.

6. The catheter assembly of claim 4, wherein a distance between the non-uniformly spaced markings decreases proximate to the distal end of the catheter adapter.

7. The catheter assembly of claim 5, wherein a distance between the uniformly spaced markings comprises a fraction of a lie distance.

8. The catheter assembly of claim 1, wherein the at least one position indicator indicates a distance to the tip of the catheter.

9. The catheter assembly of claim 1, wherein the at least one position indicator indicates dislodgement of the catheter relative to the vasculature.
10. The catheter assembly of claim 1, wherein the at least one position indicator comprises a first position indicator located near the tip of the catheter and a second position indicator located near the proximal end of the catheter.
11. A vascular access device to detect a catheter position within a vasculature, comprising:
 - a catheter comprising a proximal end, a tip, and a length of tubing therebetween; and
 - a position indicator disposed on an outer surface of the length of tubing, the position indicator configured to indicate a position of the catheter within a vasculature.
12. The vascular access device of claim 11, wherein the position indicator comprises at least one marking printed onto the outer surface of the length of tubing.
13. The vascular access device of claim 11, wherein the position indicator comprises a plurality of markings.
14. The vascular access device of claim 13, wherein each of the plurality of markings is uniformly spaced.
15. The vascular access device of claim 13, wherein each of the plurality of markings comprises a non-uniform characteristic selected from the group consisting of color, width, length, and spacing.
16. The vascular access device of claim 11, wherein the position indicator is selected from the group consisting of a colored band, a tick mark, and a graduated mark.
17. The vascular access device of claim 11, wherein the position indicator comprises a first plurality of markings located near the tip of the catheter and a second plurality of markings located near the proximal end of the catheter.

18. The vascular access device of claim 17, wherein each of the first plurality of markings is uniformly spaced from each other of the first plurality of markings and wherein each of the second plurality of markings is uniformly spaced from each other of the second plurality of markings.

19. A method, comprising:

~~providing a catheter assembly to introduce a catheter into a vasculature of a patient, the catheter assembly comprising:~~

~~a catheter adapter comprising a proximal end, a distal end, and a lumen extending therebetween;~~

~~a catheter extending from the distal end, the catheter comprising a proximal end, a tip, and a length of tubing therebetween, wherein the length of tubing comprises a position indicator to indicate a position of the catheter relative to the vasculature; and~~

~~an introducer needle extending through the length of tubing and comprising a sharp distal tip to introduce the catheter into the vasculature at an intravenous entry site of the patient;~~

~~securing the catheter such that the position indicator is aligned with the intravenous entry site; and~~

~~automatically monitoring a location of the position indicator relative to the intravenous entry site to detect catheter dislodgement.~~

20. The method of claim 19, further comprising automatically activating an alert in response to the location of the position indicator misaligning with the intravenous entry site.