CLAIMS

1. A vascular access device comprising:

a catheter adapter;

a catheter that extends distally from the catheter adapter and comprises a material; and

an antimicrobial coating applied to at least a portion of the catheter, the antimicrobial coating comprising a base material that releases one or more antimicrobial agents when the antimicrobial coating is inserted within skin of the patient, wherein the base material is UV cured and has a hardness greater than a hardness of the material of the catheter to provide kink resistance to the catheter, wherein the antimicrobial coating is uniform in thickness along a first portion of the catheter, wherein the antimicrobial coating increases in thickness along a second portion of the catheter adjacent the catheter adapter, wherein when the catheter is inserted into a vein of the patient, the first portion is configured to be positioned at least at an intimal layer of the vein and the second portion is configured to be disposed outside a body of the patient at least proximate the outer layers of the skin.

2. The vascular access device of claim 1, wherein a distal end of the antimicrobial coating is positioned proximal to a distal end of the catheter.

3. The vascular access device of claim 1, wherein the length of the antimicrobial coating is between 7 mm and 12 mm.

4. The vascular access device of claim 1, wherein the base material is hydroscopic.

5. The vascular access device of claim 1, wherein the base material is UV cured acrylate-urethane.

6. The vascular access device of claim 1, wherein a thickness of the antimicrobial coating at a distal end of the antimicrobial coating is between 10 microns and 100 microns.

7. The vascular access device of claim 1, further comprising: an antimicrobial lubricant applied to the catheter.

8. The vascular access device of claim 7, wherein the antimicrobial lubricant is applied to a portion of the catheter that does not include the antimicrobial coating.

9. A vascular access device comprising:

a catheter adapter;

a catheter that extends distally from the catheter adapter; and

an antimicrobial coating on the catheter, the antimicrobial coating extending from the catheter adapter towards a distal end of the catheter, the antimicrobial coating comprising a base material that releases one or more antimicrobial agents when the antimicrobial coating is inserted within skin of the patient, wherein the base material is cured such that the base material provides increased rigidity to the catheter, the antimicrobial coating having an increased diameter portion adjacent the catheter adapter, wherein the antimicrobial coating increases in thickness from a distal portion of the catheter to a proximal portion of the catheter proximate a distal end of the catheter adapter.

10. The vascular access device of claim 9, wherein the antimicrobial coating has a hardness in excess of a hardness of the catheter.

11. The vascular access device of claim 9, wherein a distal end of the antimicrobial coating is positioned at a length from the catheter adapter that corresponds with a length of the catheter that is intended to exist between an intimal layer of a vein and the catheter adapter when the catheter is inserted into the vein.

12. A vascular access device comprising:

a catheter adapter;

a catheter that extends distally from the catheter adapter; and

an antimicrobial coating applied to a portion of the catheter, the antimicrobial coating having a proximal end and a distal end, the antimicrobial coating comprising a base material that releases one or more antimicrobial agents when the antimicrobial coating is positioned within a patient's skin, wherein the base material is cured such that the base material provides increased rigidity to the catheter, wherein the antimicrobial coating is uniform in thickness along a first portion of the catheter, wherein the antimicrobial coating increases in thickness along a second portion of the catheter adjacent the catheter adapter, wherein an outer diameter of the antimicrobial coating at a proximal end of the second portion equals an outer diameter of a distal end of the catheter adapter.

13. The vascular access device of claim 12, wherein the catheter is positioned within the catheter adapter such that the proximal end of the antimicrobial coating is positioned adjacent the catheter adapter.

14. The vascular access device of claim 1, wherein a length of the second portion is less than 6 mm.

15. The vascular access device of claim 1, wherein the first portion is adjacent to the second portion.

16. The vascular access device of claim 1, wherein the thickness of the antimicrobial coating increases gradually along the second portion of the catheter.

17. The vascular access device of claim 1, wherein the thickness of the antimicrobial coating steps up from a smaller diameter to a larger diameter at some point along the second portion of the catheter.

18. The vascular access device of claim 1, wherein the antimicrobial coating extends beyond a distal end of the catheter adapter onto only a portion of the catheter adapter.

19. The vascular access device of claim 1, wherein a diameter of the antimicrobial coating at a point where the antimicrobial coating meets the catheter adapter is less than a diameter of the catheter adapter at the point.