

CLAIMS

What is claimed:

1. A shield for a needle comprising:
 - a top portion forming a top surface and opposing side surfaces that extend downwardly from the top surface;
 - a bottom portion forming a bottom surface and opposing side surfaces that extend upwardly from the bottom surface;
 - a proximal portion that interconnects the top portion and the bottom portion, the proximal portion forming a proximal needle opening;
 - a top distal portion that extends downwardly from the top surface; and
 - a bottom distal portion that extends upwardly from the bottom surface;wherein, when the shield is in an unlocked position, the top distal portion and the bottom distal portion are spaced to expose a distal needle opening, whereas, when the shield is in a locked position, the top distal portion and the bottom distal portion do not expose the distal needle opening.
2. The shield of claim 1, wherein the top distal portion comprises one or more tabs and the bottom distal portion comprises one or more notches for receiving the one or more tabs to maintain the shield in the locked position.
3. The shield of claim 2, wherein the distal needle opening is formed in the top distal portion.

4. The shield of claim 3, wherein the one or more tabs comprise two tabs positioned on opposing sides of the top distal portion, the distal needle opening being formed between the two tabs.

5. The shield of claim 4, wherein the one or more notches comprise two notches positioned on opposing sides of the bottom distal portion.

6. The shield of claim 1, wherein, when the shield is in the unlocked position, the top distal portion and the bottom distal portion do not overlap, whereas, when the shield is in the locked position, the top distal portion and the bottom distal portion overlap.

7. The shield of claim 6, wherein, when the shield is in the unlocked position, the opposing side surfaces of the top portion partially overlap the opposing side surfaces of the bottom portion, whereas, when the shield is in the locked position, the opposing side surfaces of the top portion fully overlap the opposing side surfaces of the bottom portion.

8. The shield of claim 1, wherein the top surface and the bottom surface each form a protrusion for retaining the shield within a catheter adapter while a needle passes through the proximal needle opening and the distal needle opening.

9. The shield of claim 1, wherein the top portion, the bottom portion, the proximal portion, the top distal portion and the bottom distal portion are all formed from a single piece of material.

10. The shield of claim 9, wherein the single piece of material is a single piece of sheet metal.

11. An intravenous catheter system comprising:

- a catheter assembly having a catheter adapter forming a lumen and a catheter that extends distally from the catheter adapter;
- a needle assembly having a needle hub and a needle that extends distally from the needle hub, the needle assembly being configured to couple to the catheter assembly to cause the needle to extend through the lumen of the catheter adapter and the catheter; and
- a shield positioned within the lumen of the catheter adapter, the shield comprising:
 - a top portion forming a top surface and opposing side surfaces that extend downwardly from the top surface;
 - a bottom portion forming a bottom surface and opposing side surfaces that extend upwardly from the bottom surface;
 - a proximal portion that interconnects the top portion and the bottom portion, the proximal portion forming a proximal needle opening;
 - a top distal portion that extends downwardly from the top surface; and
 - a bottom distal portion that extends upwardly from the bottom surface;

wherein, when the needle assembly is coupled to the catheter adapter, the needle extends through the proximal needle opening and a distal needle opening of the shield to thereby maintain the shield in an unlocked position, whereas, when the needle assembly is withdrawn proximally from the catheter assembly to cause a distal tip of the needle to pass through the distal needle

opening, the shield transitions to a locked position in which the distal tip of the needle is prevented from passing distally through the distal needle opening.

12. The intravenous catheter system of claim 11, wherein the top surface and the bottom surface of the shield each form a protrusion, and wherein the catheter adapter comprises slots that receive the protrusions formed in the top and bottom surfaces when the shield is in the unlocked position.

13. The intravenous catheter system of claim 11, wherein the top distal portion comprises one or more tabs and the bottom distal portion comprises one or more notches for receiving the one or more tabs to maintain the shield in the locked position.

14. The intravenous catheter system of claim 13, wherein the distal needle opening is formed in the top distal portion.

15. The intravenous catheter system of claim 13, wherein the one or more tabs comprise two tabs positioned on opposing sides of the top distal portion and the one or more notches comprise two notches positioned on opposing sides of the bottom distal portion.

16. The intravenous catheter system of claim 11, wherein the catheter assembly includes a septum positioned in the lumen of the catheter adapter distal to the shield, the needle extending through the septum when the needle assembly is coupled to the catheter assembly.

17. The intravenous catheter system of claim 11, wherein the top portion, the bottom portion, the proximal portion, the top distal portion and the bottom distal portion are all formed from a single piece of material.

18. A peripheral intravenous catheter comprising:

a catheter assembly having a catheter adapter forming a lumen and a catheter that extends distally from the catheter adapter;

a needle assembly having a needle hub and a needle that extends distally from the needle hub, the needle assembly being configured to couple to the catheter assembly to cause the needle to extend through the lumen of the catheter adapter and the catheter; and

a shield positioned within the lumen of the catheter adapter, the shield being formed of a single piece of material and comprising:

a top portion forming a top surface and opposing side surfaces that extend downwardly from the top surface;

a bottom portion forming a bottom surface and opposing side surfaces that extend upwardly from the bottom surface;

a proximal portion that interconnects the top portion and the bottom portion, the proximal portion forming a proximal needle opening;

a top distal portion that extends downwardly from the top surface; and

a bottom distal portion that extends upwardly from the bottom surface;

wherein, when the needle assembly is coupled to the catheter adapter, the needle extends through the proximal needle opening and a distal needle opening of the shield to thereby maintain the shield in an unlocked position, whereas, when the needle assembly is withdrawn proximally

from the catheter assembly to cause a distal tip of the needle to pass through the distal needle opening, the shield transitions to a locked position in which the distal tip of the needle is prevented from passing distally through the distal needle opening.

19. The peripheral intravenous catheter of claim 18, wherein the top surface and the bottom surface of the shield each form a protrusion, and wherein the catheter adapter comprises slots that receive the protrusions formed in the top and bottom surfaces when the shield is in the unlocked position.

20. The peripheral intravenous catheter of claim 19, wherein the top distal portion comprises one or more tabs and the bottom distal portion comprises one or more notches for receiving the one or more tabs to maintain the shield in the locked position.