

CLAIMS

What is claimed:

1. An intravenous catheter device comprising:
a catheter assembly having a catheter adapter 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 extending through the catheter adapter and the catheter; and
a safety mechanism having a barrel and a slider that slides within the barrel, a distal end of the slider being coupled to a proximal end of the catheter adapter such that the catheter assembly slides with the slider relative to the barrel, the needle hub being contained within the barrel and being configured to retract proximally within the barrel.
2. The intravenous catheter device of claim 1, wherein the slider includes a distal nose that inserts into the catheter adapter to interconnect the safety mechanism and the catheter assembly.
3. The intravenous catheter device of claim 2, wherein the slider includes a collar that is positioned adjacent to the distal nose.
4. The intravenous catheter device of claim 3, wherein the collar forms a push tab.
5. The intravenous catheter device of claim 1, wherein a position of the needle hub relative to the barrel remains fixed while the slider initially slides within the barrel.

6. The intravenous catheter device of claim 5, wherein the needle hub is retracted proximally within the barrel when the slider slides distally to a trigger point.

7. The intravenous catheter device of claim 6, wherein the safety mechanism includes a spring that causes the needle hub to retract proximally within the barrel.

8. The intravenous catheter device of claim 7, wherein the slider causes the spring to retract the needle hub proximally when the slider reaches the trigger point.

9. The intravenous catheter device of claim 8, wherein a distal tip of the needle is retracted into the slider when the needle hub is retracted proximally within the barrel.

10. The intravenous catheter device of claim 9, wherein a position of the slider relative to the barrel is retained after the slider reaches the trigger point.

11. An intravenous catheter device comprising:

a barrel;

a slider that is coupled to and slides within the barrel;

a catheter adapter having a proximal end to which a distal end of the slider is coupled;

a catheter that extends distally from the catheter adapter;

a needle hub contained within the barrel; and

a needle that extends distally from the needle hub, the needle extending through the catheter adapter and the catheter.

12. The intravenous catheter device of claim 11, wherein the needle hub is initially positioned towards a distal end of the barrel.

13. The intravenous catheter device of claim 12, wherein the needle hub is retained towards the distal end of the barrel while the slider slides towards a trigger point.

14. The intravenous catheter device of claim 13, wherein the needle hub is retracted to a proximal end of the barrel when the slider reaches the trigger point.

15. The intravenous catheter device of claim 14, further comprising:
a spring that is compressed when the needle hub is retained towards the distal end of the barrel, the spring forcing the needle hub to retract to the proximal end of the barrel in response to the slider reaching the trigger point.

16. The intravenous catheter device of claim 14, wherein a distal tip of the needle is contained within the slider when the needle hub is retracted to the proximal end of the barrel.

17. The intravenous catheter device of claim 16, wherein the slider is retained at the trigger point to prevent the distal tip of the needle from extending distally beyond the slider.

18. The intravenous catheter device of claim 11, wherein the slider includes a push tab.

19. The intravenous catheter device of claim 11, wherein the slider includes a distal nose that inserts into the catheter adapter to couple the slider to the catheter adapter.

20. An intravenous catheter device comprising:

a barrel having an interior;

a slider contained in the interior of the barrel;

a catheter adapter having a proximal end to which a distal end of the slider is coupled;

a catheter that extends distally from the catheter adapter;

a needle hub contained within the interior of the barrel; and

a needle that extends distally from the needle hub, the needle extending through the catheter adapter and the catheter;

wherein a proximal end of the slider is initially positioned towards a proximal end of the barrel and the needle hub is initially retained towards a distal end of the barrel; and

wherein the needle hub is retracted to the proximal end of the barrel when the proximal end of the slider is slid to a trigger point of the barrel, the retracting of the needle hub causing a distal tip of the needle to be secured within the slider.