

Claims

1. An IV catheter system, comprising:
 - a catheter adapter having a proximal end and a distal end;
 - a cannula extending through the catheter adapter, wherein a proximal end of the cannula comprises an opening or the cannula comprises a notch; and
 - a needle hub coupled to the proximal end of the catheter adapter, wherein the needle hub comprises a flashback chamber in fluid communication with the opening of the proximal end of the cannula or the notch when the IV catheter system is in an insertion configuration, wherein the flashback chamber comprises a pocket and an elongated visualization channel, wherein the elongated visualization channel comprises a straight groove disposed on a top of the needle hub and aligned with the cannula, wherein blood is configured to flow proximally through the straight groove, wherein the straight groove extends along a majority of a length of the needle hub, wherein the needle hub further comprises a reservoir and a drain channel, wherein fluid is configured to flow from the elongated visualization channel to the reservoir disposed underneath the elongated visualization channel via the drain channel, wherein the elongated visualization channel extends along a longitudinal axis of the needle hub, wherein the drain channel extends outwardly from the elongated visualization channel.
2. The IV catheter system of claim 1, wherein the cannula comprises the notch, wherein the notch is disposed in the pocket when the IV catheter system is in the insertion configuration, wherein the fluid is configured to fill the pocket prior to entering the elongated visualization channel.

3. The IV catheter system of claim 1, further comprising a sleeve configured to provide a seal around the needle hub, wherein the sleeve forms an outer wall of the flashback chamber, wherein at least a portion of the sleeve aligned with the flashback chamber is transparent or semi-transparent.

4. The IV catheter system of claim 3, wherein the sleeve is integrally formed with a grip extending outwardly from the sleeve.

5. The IV catheter system of claim 4, wherein the catheter adapter comprises a wing forming a securement platform, wherein the wing is slidably positioned on top of the grip.

6. The IV catheter system of claim 3, wherein the needle hub is secured within the sleeve via one or more retention features.

7. The IV catheter system of claim 1, wherein the straight groove has a general shape of a rectangular prism along the majority of the length of the needle hub.

8. An IV catheter system, comprising:

- a catheter adapter having a proximal end and a distal end;
- a cannula extending through the catheter adapter, wherein a proximal end of the cannula comprises an opening or the cannula comprises a notch; and
- a needle hub coupled to the proximal end of the catheter adapter, wherein the needle hub comprises a flashback chamber in fluid communication with the opening of the proximal end of the cannula or the notch, wherein the flashback chamber comprises a pocket and an elongated visualization channel, wherein the pocket is distal to and deeper than the elongated visualization channel, wherein the elongated visualization channel comprises a distal end proximal the pocket, a proximal end, and a straight groove extending along a top of the needle hub between the distal

end and the proximal end of the elongated visualization channel, wherein blood is configured to flow proximally through the straight groove.

9. The IV catheter system of claim 8, wherein the elongated visualization channel is disposed on the top of the needle hub.

10. The IV catheter system of claim 8, wherein the straight_groove extends along a majority of a length of the needle hub.

11. The IV catheter system of claim 8, wherein the cannula comprises the notch, wherein the notch is disposed in the pocket when the IV catheter system is in an_insertion configuration, wherein fluid is configured to fill the pocket prior to entering the elongated visualization channel.

12. The IV catheter system of claim 8, further comprising a sleeve configured to provide a seal around the needle hub, wherein the sleeve forms an outer wall of the flashback chamber, wherein at least a portion of the sleeve aligned with the flashback chamber is transparent or semi-transparent.

13. The IV catheter system of claim 12, wherein the needle hub is secured within the sleeve via one or more retention features.

14. The IV catheter system of claim 12, wherein the sleeve is integrally formed with a grip extending outwardly from the sleeve.

15. The IV catheter system of claim 14, wherein the catheter adapter comprises a wing forming a securement platform, wherein the wing is slidably positioned on top of the grip.

16. The IV catheter system of claim 8, wherein a distal end of the straight groove contacts the pocket.