

CLAIMS

We claim:

1. ~~— A catheter system, comprising:~~
~~a catheter component, comprising:~~
~~a catheter hub, comprising a distal end, a proximal end, and a chamber disposed between the distal end and the proximal end;~~
~~a cannula secured to the distal end of the catheter hub; and~~
~~a plurality of ridges coupled to the catheter hub and extending away from an axis of the cannula;~~
~~— a needle extending through the cannula; and~~
~~a needle safety mechanism selectively coupled to the catheter component,~~
~~wherein the catheter system is configured such that in response to insertion of the needle into a vein, blood flash flows into the needle and between an outer surface of the needle and an inner surface of the catheter hub.~~
2. ~~The catheter system of claim 1, wherein the catheter hub comprises a translucent component, wherein the translucent component is disposed distal to the plurality of ridges, wherein the translucent component is configured to facilitate visibility of the blood flash between the outer surface of the needle and the inner surface of the catheter hub.~~
3. ~~The catheter system of claim 1, wherein the plurality of ridges are generally parallel to each other.~~
4. ~~The catheter system of claim 3, wherein the plurality of ridges comprises a first ridge, a second ridge, and a third ridge, wherein the first ridge is distal to the second ridge, wherein the second ridge is distal to the third ridge, wherein a height of the first ridge is greater than a height of the second ridge and a height of the third ridge.~~

5. ~~The catheter system of claim 4, wherein each of the plurality of ridges are approximately evenly spaced apart.~~
6. ~~The catheter system of claim 1, wherein the needle safety mechanism comprises an internal interlock, wherein the internal interlock is coupled with an internal surface of the catheter component.~~
7. ~~The catheter system of claim 1, wherein the needle safety mechanism comprises a clip disposed within the catheter component.~~
8. ~~A catheter system, comprising:~~
~~a catheter component, comprising:~~
~~a catheter hub, comprising a distal end, a proximal end, and a chamber disposed between the distal end and the proximal end;~~
~~a cannula secured to the distal end of the catheter hub; and~~
~~a plurality of ridges coupled to the catheter hub and extending away from an axis of the cannula; and~~
~~—— a needle extending through the cannula.~~
9. ~~The catheter system of claim 8, further comprising a needle safety mechanism selectively coupled to the catheter component, wherein the catheter system is configured such that in response to insertion of the needle into a vein, blood flash flows into the needle and between an outer surface of the needle and an inner surface of the catheter hub.~~
10. ~~The catheter system of claim 9, wherein the catheter hub comprises a translucent component, wherein the translucent component is disposed distal to the plurality of ridges, wherein the translucent component is configured to facilitate visibility of the blood flash between the outer surface of the needle and the inner surface of the catheter hub.~~

11. ~~The catheter system of claim 9, wherein the plurality of ridges are generally parallel to each other.~~
12. ~~The catheter system of claim 9, wherein the plurality of ridges comprises a first ridge, a second ridge, and a third ridge, wherein the first ridge is distal to the second ridge, wherein the second ridge is distal to the third ridge, wherein a height of the first ridge is greater than a height of the second ridge and a height of the third ridge.~~
13. ~~The catheter system of claim 9, wherein each of the plurality of ridges are approximately evenly spaced apart.~~
14. ~~The catheter system of claim 9, wherein the needle safety mechanism comprises an internal interlock, wherein the internal interlock is coupled with an internal surface of the catheter component.~~
15. ~~The catheter system of claim 9, wherein the needle safety mechanism comprises a clip disposed within the catheter component.~~
16. A catheter system, comprising:
 - ~~a catheter component, comprising:~~
 - ~~a catheter hub, comprising a distal end, a proximal end, and a chamber disposed between the distal end and the proximal end;~~
 - ~~a cannula secured to the distal end of the catheter hub; and~~
 - ~~a tab coupled to a top of the catheter hub and formed of a thermoplastic elastomeric material;~~
 - ~~— a needle extending through the cannula; and~~
 - ~~a needle safety mechanism selectively coupled to the catheter component,~~

~~wherein the catheter system is configured such that in response to insertion of the needle into a vein, blood flash flows into the needle and between an outer surface of the needle and an inner surface of the catheter hub.~~

~~17. The catheter system of claim 16, wherein the tab comprises a plurality of recesses aligned with the axis of the cannula, wherein a distal end of the tab is tilted such that the distal end of the tab is displaced further from the axis of the cannula than a proximal end of the tab.~~

~~18. The catheter system of claim 16, wherein a distal end of the tab is tilted such that the distal end of the tab is displaced further from the axis of the cannula than a proximal end of the tab.~~

~~19. The catheter system of claim 18, wherein the tab comprises a plurality of ridges.~~

~~20. The catheter system of claim 18, wherein the catheter component further comprises a pad disposed on the top of the catheter hub and proximal to the tab, wherein the pad is comprised of an elastomer, wherein the pad comprises a plurality of ridges.~~

Claims

1. An IV catheter system comprising an insertion configuration and a fluid delivery configuration, the IV catheter system comprising: a catheter component comprising: a catheter hub comprising a catheter hub distal end and a catheter hub proximal end, wherein the catheter hub is shaped to define a chamber extending between the catheter hub distal end and the catheter hub proximal end, and a needle port at the catheter hub proximal end that provides access to the chamber; a cannula extending distally from the catheter hub distal end along a cannula axis; and a push feature extending outward from the catheter hub, wherein the push feature comprises an outer surface positioned to receive contact from a digit such that the digit urges the IV catheter system to move from the insertion configuration to the fluid delivery configuration, wherein the push feature comprises a plurality of ridges, wherein each of the plurality of ridges are oriented generally transverse to an axis of the cannula and along the axis of the cannula, wherein a first ridge of the plurality of ridges is distal to a second ridge and a third ridge of the plurality of ridges, wherein the second ridge is distal to the third ridge; and a needle component comprising: a needle hub comprising a needle hub distal end and a needle hub proximal end; and a needle extending distally from the needle hub distal end along a needle axis; wherein, in the insertion configuration, the needle is positioned within the cannula and the needle hub distal end is seated in the needle port; wherein, in the fluid delivery configuration, the needle is positioned outside the catheter hub; wherein the push feature is formed of a flexible material that causes the push feature, in response to pressure exerted on the outer surface by a dressing securing the catheter component to a patient, to flex such that the outer surface deflects toward the cannula axis.

2. The IV catheter system of claim 1, wherein: the needle component further comprises a grip extending from the needle hub, generally parallel to the needle axis, the grip comprising a pull feature; and the push feature and the pull feature are positioned to receive contact from one or more additional digits of the same hand as the digit to urge the IV catheter system to move from the insertion configuration to the fluid delivery configuration.

3. The IV catheter system of claim 2, wherein the catheter component further comprises a securement platform comprising a first wing extending from the catheter hub, generally parallel to the cannula axis such that, in the fluid delivery configuration, the first wing rests on skin of a patient receiving fluid through the IV catheter system.

4. The IV catheter system of claim 3, wherein: in the insertion configuration, the first wing and the grip are generally parallel to each other and are positioned in abutting relation to each other; and during motion of the IV catheter system from the insertion configuration to the fluid delivery configuration, the grip slides along the first wing.

5. The IV catheter system of claim 1, wherein the push feature comprises a tab positioned closer to the catheter hub distal end than to the catheter hub proximal end.

6. The IV catheter system of claim 5, wherein the catheter component further comprises a pad positioned proximate the catheter hub proximal end, wherein the pad comprises a surface texture selected to provide frictional engagement with the digit or with another digit of the same hand as the digit.

7. The IV catheter system of claim 1, wherein the push feature comprises a tab positioned generally equidistant from the catheter hub distal end and the catheter hub proximal end.

8. The IV catheter system of claim 1, wherein the outer surface is on a first ridge oriented substantially perpendicular to the cannula axis.

9. The IV catheter system of claim 8, wherein the push feature further comprises a plurality of additional ridges oriented generally parallel to the first ridge.

10. The IV catheter system of claim 1, wherein the push feature is formed of a material having a lower durometer than the catheter hub.

11. The IV catheter system of claim 1, wherein the catheter hub further comprises an opaque component molded as a single piece with the push feature.

12. The IV catheter system of claim 11, wherein the catheter hub further comprises a translucent component defining at least one wall of the chamber such that blood within the chamber is visible from outside the chamber through the at least one wall.

13. The IV catheter system of claim 1, wherein the push feature comprises: a plurality of adjacent surfaces adjacent to and angled relative to the outer surface; and a plurality of rounds positioned to join the outer surface with each of the adjacent surfaces in a manner that avoids puncturing the dressing.

14. An IV catheter system comprising an insertion configuration and a fluid delivery configuration, the IV catheter system comprising: a catheter component comprising: a catheter hub comprising a catheter hub distal end and a catheter hub proximal end, wherein the catheter hub further comprises: a translucent component defining at least one wall of a chamber extending between the catheter hub distal end and the catheter hub proximal end; and a needle port at the catheter hub proximal end that provides access to the chamber; a cannula extending distally from the catheter hub distal end along a cannula axis; and a push feature extending outward from the catheter hub, wherein the push feature comprises an outer surface positioned to receive contact from a digit such that the digit urges the IV catheter system to move from the insertion configuration to the fluid delivery configuration, wherein the push feature comprises a plurality of ridges, wherein each of the plurality of ridges are oriented generally transverse to an axis of the cannula and along the axis of the cannula, wherein a first ridge of the plurality of ridges is distal to a second ridge and a third ridge of the plurality of ridges, wherein the second ridge is distal to the third ridge, wherein the plurality of ridges are formed of a material having a lower durometer than the translucent component; and a needle component comprising: a needle hub comprising a needle hub distal end and a needle hub proximal end; and a needle extending distally from the needle hub distal end along a needle axis; wherein, in the insertion configuration, the needle is positioned within the cannula and the needle hub distal end is seated in the needle port; wherein, in the fluid delivery configuration, the needle is positioned outside the catheter hub.

15. The IV catheter system of claim 14, wherein: the needle component further comprises a grip extending from the needle hub, generally parallel to the needle axis, the grip comprising a pull feature; the tab and the pull feature are positioned to receive contact from one or more digits of a single hand to urge the IV catheter system to move from the insertion configuration to the fluid delivery configuration; the catheter component further comprises a securement platform comprising a first wing extending from the catheter hub, generally parallel to the cannula axis such that, in the fluid delivery configuration, the first wing rests on skin of a patient receiving fluid through the IV catheter system; in the insertion configuration, the first wing and the grip are generally parallel to each other and are positioned in abutting relation to each other; and during motion of the IV catheter system from the insertion configuration to the fluid delivery configuration, the grip slides along the first wing.

16. The IV catheter system of claim 14, wherein the tab comprises: an outer surface positioned to receive contact from a digit such that the digit urges the IV catheter system to move from the insertion configuration to the fluid delivery configuration; a plurality of adjacent surfaces adjacent to and angled relative to the outer surface; and a plurality of rounds positioned to join the outer surface with each of the adjacent surfaces in a manner that avoids puncturing a dressing securing the catheter component to a patient.

17. The IV catheter system of claim 14, wherein the catheter hub further comprises an opaque component formed as a single piece with the tab such that the opaque component cooperates with the translucent component to define the chamber.

18. An IV catheter system comprising an insertion configuration and a fluid delivery configuration, the IV catheter system comprising: a catheter component comprising: a catheter hub comprising a catheter hub distal end and a catheter hub proximal end, wherein the catheter hub is shaped to define a chamber extending between the catheter hub distal end and the catheter hub proximal end, and a needle port at the catheter hub proximal end that provides access to the chamber; a cannula extending distally from the catheter hub distal end along a cannula axis; and a push feature extending outward from the catheter hub, wherein the push feature comprises: a plurality of ridges, wherein each of the plurality of ridges are oriented generally transverse to an axis of the cannula and along the axis of the cannula, wherein a first ridge of the plurality of ridges is distal to a second ridge and a third ridge of the plurality of ridges, wherein the second ridge is distal to the third ridge, wherein each of the plurality of ridges comprises: an outer surface positioned to receive contact from a digit such that the digit urges the IV catheter system to move from the insertion configuration to the fluid delivery configuration; a plurality of adjacent surfaces adjacent to and angled relative to the outer surface; and a plurality of rounds positioned to join the outer surface with each of the adjacent surfaces in a manner that avoids puncturing a dressing securing the catheter component to a patient; and a needle component comprising: a needle hub comprising a needle hub distal end and a needle hub proximal end; a needle extending distally from the needle hub distal end along a needle axis; and a grip extending from the needle hub, generally parallel to the needle axis, the grip comprising a pull feature; wherein, in the insertion configuration, the needle is positioned within the cannula and the needle hub distal end is seated in the needle port; wherein, in the fluid delivery configuration, the needle is positioned outside the catheter hub; wherein the push feature is formed of a flexible material that causes the push feature, in response to

pressure exerted on the outer surface by the dressing, to flex such that the outer surface deflects toward the cannula axis; wherein the push feature and the pull feature are positioned to receive contact from one or more additional digits of the same hand as the digit to urge the IV catheter system to move from the insertion configuration to the fluid delivery configuration; wherein the catheter component further comprises a securement platform comprising a first wing extending from the catheter hub, generally parallel to the cannula axis such that, in the fluid delivery configuration, the first wing rests on skin of a patient receiving fluid through the IV catheter system; wherein, in the insertion configuration, the first wing and the grip are generally parallel to each other and are positioned in abutting relation to each other; wherein, during motion of the IV catheter system from the insertion configuration to the fluid delivery configuration, the grip slides along the first wing; wherein the push feature is formed of a material having a lower durometer than the catheter hub.

19. The IV catheter system of claim 18, wherein: the push feature comprises a tab positioned closer to the catheter hub distal end than to the catheter hub proximal end; and the catheter component further comprises a pad positioned proximate the catheter hub proximal end, wherein the pad comprises a surface texture selected to provide frictional engagement with the digit or with another digit of the same hand as the digit.

20. The IV catheter system of claim 18, wherein the catheter hub further comprises: an opaque component molded as a single piece with the push feature; and a translucent component defining at least one wall of the chamber such that blood within the chamber is visible from outside the chamber through the at least one wall.