CLAIMS

1. An intravenous (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 defines 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; and

a wing extending outwardly from the catheter hub, wherein an upper surface of the wing comprises a push feature defining a push surface of the catheter component;

wherein the push feature comprises a tab oriented generally perpendicular to a longitudinal axis of the cannula, extending upwardly from the wing, and spaced apart from the longitudinal axis of the cannula;

a needle component comprising:

a needle hub comprising a needle hub distal end;

a needle extending distally from the needle hub distal end; and

a grip having a generally planar shape and extending outwardly from the needle hub, wherein an upper surface of the grip comprises a pull feature connected to the needle hub and defining a pull surface of the needle component;

wherein, in the insertion configuration, the needle is positioned within the cannula, the needle hub distal end is seated in the needle port, and the pull surface is positioned distal the catheter hub proximal end.

2. The IV catheter system of claim 1, wherein the pull surface is positioned distal the push surface when the IV catheter system is in the insertion configuration.

3. The IV catheter system of claim 1, wherein the push feature is integrated into a securement platform comprising a wing extending from the catheter hub generally parallel to a cannula axis along which the cannula extends such that, in the fluid delivery configuration, the wing rests on skin of a patient receiving fluid through the IV catheter system.

4. The IV catheter system of claim 3, wherein the wing is integrated with an extension tubing junction extending outwardly from the catheter hub at a location intermediate the catheter hub distal end and the catheter hub proximal end.

5. The IV catheter system of claim 3, wherein the wing is not coplanar with a cannula axis containing the cannula.

6. The IV catheter system of claim 1, wherein the catheter component further comprises a septum within the chamber through which the needle passes in the insertion configuration and wherein the septum is configured to provide a sufficiently low resistance to withdrawal of the needle

through the septum to enable a single hand of a clinician to move the IV catheter system from the insertion configuration to the fluid delivery configuration without assistance of another hand of the clinician.

7. The IV catheter system of claim 1, wherein the pull feature comprises a feature selected from the group consisting of:

a leading edge of a grip secured to the needle hub and extending outwardly and generally distally from the needle hub;

a grip feature applied to or formed on a major surface of a grip secured to the needle hub and extending outwardly and generally distally from the needle hub;

a series of nubs applied to or formed on a major surface of a grip secured to the needle hub and extending outwardly and generally distally from the needle hub;

a tab secured to a grip, the grip being secured to the needle hub and extending outwardly and generally distally from the needle hub generally parallel to an axis of the needle, and the tab extending from the grip in a direction nonparallel to the grip; and

a tab secured to a grip, the grip being secured to the needle hub and extending outwardly and generally distally from the needle hub generally parallel to an axis of the needle, and the tab extending substantially perpendicularly from the grip.

8. The IV catheter system of claim 1, wherein:

the catheter component comprises a wing extending outwardly from the catheter hub generally parallel to a cannula axis;

the needle component comprises a grip extending outwardly and distally from the needle hub generally parallel to a needle axis;

in the insertion configuration, the 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 wing.

9. The IV catheter system of claim 1, wherein the needle component comprises a rotation stop feature formed proximate the needle hub distal end, the rotation stop feature being configured to engage a corresponding feature on the catheter component to limit rotation of the needle component relative to the catheter component.

10. The IV catheter system of claim 9, wherein:

the catheter component comprises a wing extending outwardly from the catheter hub generally parallel to a cannula axis;

the needle component comprises a grip extending outwardly and distally from the needle hub generally parallel to a needle axis;

the rotation stop feature extends distally from the needle hub distal end;

in the insertion configuration, the needle component is rotated relative to the catheter component such that the rotation stop feature contacts the wing of the catheter component and the grip is substantially co-planar with the wing.

11. The IV catheter system of claim 10, further comprising:

a circumferential ring extending around the catheter hub;

a low-drag septum disposed within the catheter hub;

opposed side grips disposed on opposing sides of the needle hub; and

a low-volume, high-visualization flash chamber removably attached to a flash receptacle attached to a proximal end of the needle hub.

12. The IV catheter system of claim 1, wherein the needle component comprises a needle hub proximal end having a flash receptacle containing a flash chamber.

13. The IV catheter system of claim 12, wherein the flash receptacle includes one or more side vents for venting air from the flash chamber.

14. An intravenous (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 defines 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; and

a wing connected to the catheter hub and extending outwardly from the catheter hub, wherein an upper surface of the wing comprises a push surface of the catheter component;

a needle component comprising:

a needle hub comprising a needle hub distal end;

a needle extending distally from the needle hub distal end; and

a grip connected to the needle hub, wherein the grip is generally planar, wherein the grip comprises a proximal portion extending outwardly and distally from the needle hub, wherein the grip further comprises a distal portion having an enlarged shape compared to the proximal portion, wherein an upper surface of the grip comprises a pull surface of the needle component;

wherein, in the insertion configuration, the needle is positioned within the cannula, the needle hub distal end is seated in the needle port, and the pull surface is positioned distal the catheter hub proximal end.

15. The IV catheter system of claim 14, wherein the pull surface is positioned distal the push surface when the IV catheter system is in the insertion configuration.

16. The IV catheter system of claim 14, wherein the pull surface comprises a surface selected from the group consisting of:

a leading edge of the grip;

a grip feature applied to or formed on a major surface of the grip;

a series of nubs applied to or formed on a major surface of the grip;

a tab secured to the grip, the tab extending from the grip in a direction nonparallel to the grip; and

a tab secured to the grip, the tab extending substantially perpendicularly from the grip.

17. An intravenous (IV) catheter system comprising:

a catheter component comprising:

a catheter hub having a proximal end;

a cannula that extends distally from the catheter hub; and

a wing that extends outwardly from a side of the catheter hub; and

a needle component comprising:

a needle hub having a distal end that couples to the proximal end of the catheter hub;

a needle that extends distally from the distal end of the needle hub;

a grip that extends outwardly and distally from a side of the needle hub; and

a rotation stop feature formed at the distal end of the needle hub, the rotation stop feature being adapted to contact the wing of the catheter component to limit rotation of the needle component with respect to the catheter component when the needle is fully inserted in the cannula, wherein the rotation stop feature is positioned such that the grip is substantially coplanar with the first wing when the rotation stop feature contacts the wing, wherein the rotation stop feature comprises a protrusion; and

a notch, wherein the rotation stop feature is movable within the notch to allow rotation to the needle hub with respect to the catheter hub, wherein movement of the rotation stop feature is limited to the notch.

18. The IV catheter system of claim 17, wherein:

the rotation stop feature extends distally from the distal end of the needle hub; and

when the rotation stop feature contacts the wing, a plane of the grip is substantially parallel to a plane of the wing.