CLAIMS

What is claimed is:

1. A rapid insertion central catheter system, comprising:

an introducer placement system configured to place an introducer within a vasculature of a patient, comprising:

a needle defining a needle lumen;

an introducer guidewire, disposed within the needle lumen;

a dilator defining a dilator lumen;

the introducer supported by an introducer hub, the introducer defining a introducer lumen configured to receive the dilator disposed therein;

a guidewire housing including a guidewire advancement assembly coupled to a proximal end of the introducer guidewire, and a needle retraction assembly coupled to a proximal end of the needle;

a dilator housing coupled to a distal end of the guidewire housing and including a dilator advancement assembly coupled to a proximal end of the dilator; and

a blood flash indicator tube fluidly coupled with the needle lumen;

a docking station, releasably coupled to a distal end of the dilator housing, the docking station defining a lumen configured to retain the introducer hub; and

a catheter placement system configured to engage a proximal end of the docking station and place a catheter within the vasculature of the patient, the catheter placement system comprising:

a docking portion configured to engage the docking station to axially align the catheter with the introducer lumen;

a rail extending proximally from the docking portion;

a locking hub disposed at a proximal end of the rail, the locking hub defining a locking hub lumen;

a catheter guidewire including a guidewire hub permanently attached to a proximal end thereof, wherein a portion of the guidewire is disposed within the locking hub lumen; and

a catheter frame slidably engaged with the rail, wherein the catheter is supported by the catheter frame.

2. The rapid insertion central catheter system according to claim 1, wherein the introducer placement system further includes a blood flash actuator configured to release a vacuum disposed within the blood flash indicator tube to draw a proximal blood flow through the needle lumen and into the blood flash indicator tube.

3. The rapid insertion central catheter system according to claim 2, wherein the proximal blood flow disposed within the blood flash indicator tube is observable through the blood flash indicator tube and through the guidewire housing.

4. The rapid insertion central catheter system according to any claim of claims 1-3, wherein one of the rail and the catheter guidewire is disposed within a collapsible sterile barrier to prevent contact therewith.

5. The rapid insertion central catheter system according to any claim of claims 1-4, wherein the catheter is disposed within the collapsible sterile barrier that includes the rail disposed therein, the catheter frame extending through an aperture disposed in a side wall of the collapsible sterile barrier and configured to be grasped by a clinician.

6. The rapid insertion central catheter system according to any claim of claims 1-5, wherein one of the guidewire advancement assembly, the needle retraction assembly, and the dilator advancement assembly includes a release mechanism that requires a pair of finger tabs to move laterally inward prior to allowing any longitudinal movement thereof.

7. The rapid insertion central catheter system according to any claim of claims 1-6, wherein the guidewire of the introducer placement system is configured to blunt a tip of the needle when the guidewire is advanced distally through the needle lumen.

8. The rapid insertion central catheter system according to any claim of claims 1-7, wherein distal advancement of the dilator advancement assembly causes the dilator and the introducer to advance distally over the needle and the guidewire.

9. The rapid insertion central catheter system according to any claim of claims 1-8, wherein proximal withdrawal of the needle retraction assembly causes proximal withdrawal of the needle and the introducer guidewire.

10. The rapid insertion central catheter system according to any claim of claims 1-9, wherein distal advancement of the dilator advancement assembly transfers the introducer from the dilator housing to the docking station.

11. The rapid insertion central catheter system according to claim 10, wherein proximal withdrawal of the dilator advancement assembly causes proximal withdrawal of the dilator from the lumen of the introducer.

12. The rapid insertion central catheter system according to any claim of claims 1-11, wherein the docking station defines a distal surface including an adhesive layer configured to adhere the docking station to a skin surface of the patient.

13. The rapid insertion central catheter system according to any claim of claims 1-12, wherein a width of the guidewire hub of the catheter guidewire is greater than a width of the locking hub lumen to prevent a proximal end of the catheter guidewire passing through the locking hub lumen.

14. The rapid insertion central catheter system according to any claim of claims 1-13, wherein the docking portion of the catheter placement system includes an introducer retraction assembly configured to split the introducer along a longitudinal axis into a first half and a second half, the first half wound around a first reel and a second half wound around a second reel.

15. The rapid insertion central catheter system according to any claim of claims 1-14, wherein the locking hub further includes a guidewire lock, configured to lock the catheter guidewire and prevent longitudinal movement thereof, relative to the locking hub.

16. The rapid insertion central catheter system according to any claim of claims 1-15, wherein the docking station includes a breach line extending longitudinally, and is configured to separate along the breach line when a first body portion and a second body portion of the docking station are urged laterally outward.