CLAIMS

What is claimed is:

1. A rapidly insertable central catheter ("RICC") assembly, comprising:
a RICC including:
a catheter tube including a side aperture through a side of the catheter tube in a distal-end portion thereof, the side aperture opening into an introducing lumen of the catheter tube that extends from at least the side aperture to a distal end of the RICC;
a catheter hub coupled to a proximal-end portion of the catheter tube; and
one or more extension legs, each extension leg of the one-or-more extension legs coupled to the catheter hub by a distal-end portion thereof;
an introducer including an introducer needle having a cannula; and
a coupling system including a distal coupler slidably attached to the catheter tube proximal of the side aperture, the cannula extending through a longitudinal through hole of the distal coupler, through the side aperture of the catheter tube, along the introducing lumen of the catheter tube, and through the distal end of the RICC when the RICC assembly is in a ready-to-deploy state thereof.

2. The RICC assembly of claim 1, wherein the cannula of the introducer needle extends at least about 2 - 7 cm from the distal end of the RICC in the ready-to-deploy state of the RICC for a venipuncture with the cannula.

3. The RICC assembly of either claim 1 or 2, the introducer further including:
a guidewire conduit coupled to a needle hub of the introducer needle; and
an access guidewire disposed in the guidewire conduit, the guidewire conduit configured to maintain sterility of the access guidewire.

4. The RICC assembly of claim 3, the distal coupler including a tab configured to allow a clinician to single handedly advance the RICC off the cannula with a single finger of a hand while holding the guidewire conduit between a thumb and another finger or fingers of the hand.

5. The RICC assembly of either claim 3 or 4, wherein the guidewire conduit includes a longitudinal slit and the access guidewire includes a handle coupled to a proximal-end portion of the access guidewire, the handle protruding through the longitudinal slit for grasping the handle and advancing the access guidewire through the distal end of the RICC without directly touching the access guidewire.

6. The RICC assembly of claim 5, wherein the longitudinal slit includes closed ends configured to provide stops for the handle that prevent loss of the access guidewire in a blood-vessel lumen of a patient by over advancement of the access guidewire or withdrawal of the access guidewire from the guidewire conduit by over withdrawal of the access guidewire.

7. The RICC assembly of any claim of claims 3-6, the introducer further including a fluid-pressure indicator extending from a side arm of the needle hub, the fluid-pressure indicator fluidly coupled to a needle lumen of the introducer needle by way of a side-arm lumen of the side arm for observing blood flashback.

8. The RICC assembly of any claim of claims 3-7, the coupling system further including a proximal coupler removably attached to the catheter hub and slidably attached to the guidewire conduit, the coupling system configured to couple the RICC and the introducer together by corresponding proximal-end and distal-end portions thereof in the ready-to-deploy state of the RICC assembly while allowing the introducer to slide relative to the RICC.

9. The RICC assembly of claim 8, wherein the proximal coupler includes sloped sides configured to push the guidewire conduit out of the proximal coupler when a proximal coupler-interacting portion of the introducer interacts with the sloped sides while the cannula is withdrawn from the side aperture of the catheter tube.

10. The RICC assembly of either claim 8 or 9, wherein the proximal coupler includes posts and the catheter hub includes a suture wing with suture-wing holes, the posts disposed in the suture-wing holes in the ready-to-deploy state of the RICC assembly.

11. The RICC assembly of any claim of claims 8-10, the RICC further including a sterile barrier over the catheter tube between the proximal coupler and the distal coupler to which the sterile barrier is coupled, the sterile barrier configured to split apart when the proximal coupler is removed from the catheter hub and the sterile barrier is pulled away from the catheter tube.

12. The RICC assembly of claim 11, wherein the sterile barrier has sufficient tensile strength to pull the distal coupler off the catheter tube without breaking when the sterile barrier splits down to the distal coupler while being pulled away from the catheter tube.

13. The RICC assembly of any claim of claims 1-12, wherein the RICC includes a set of three lumens including a distal lumen, a medial lumen, and a proximal lumen formed of fluidly connected portions of three catheter-tube lumens, three hub lumens, and three extension-leg lumens, the introducing lumen of the catheter tube coincident with a distal-end portion of the distal lumen.

14. The RICC assembly of claim 13, wherein the distal lumen has a distal-lumen aperture in a distal end of the RICC, the medial lumen has a medial-lumen aperture in the side of the catheter tube distal of the side aperture, and the proximal lumen has a proximal-lumen aperture in the side of the catheter tube distal of the side aperture but proximal of the medial-lumen aperture.

15. A method for inserting a rapidly insertable central catheter ("RICC) into a blood-vessel lumen of a patient, comprising:

obtaining a RICC assembly including the RICC, an introducer including an introducer needle, and a coupling system including a distal coupler that couples the RICC and the introducer together by distal-end portions thereof in a ready-to-deploy state of the RICC assembly;

establishing a needle tract from an area of skin to the blood-vessel lumen of the patient with a cannula of the introducer needle, the cannula extending through a longitudinal through hole of the distal coupler, through a side aperture in a distal-end portion of a catheter tube of the RICC, along an introducing lumen of the catheter tube, and out a distal end of the RICC;

advancing the distal-end portion of the catheter tube into the blood-vessel lumen over the cannula; and

withdrawing the cannula from the introducing lumen by way of the side aperture of the catheter tube.

16. The method of claim 15, further comprising ensuring the cannula extends at least about 2 - 7 cm beyond the distal end of the RICC before establishing the needle tract.

17. The method of either claim 15 or 16, wherein establishing the needle tract includes ensuring blood flashes back into a needle hub of the introducer needle, a side arm of the needle hub, or a fluid-pressure indicator extending from the side arm of the needle hub.

18. The method of any claim of claims 15-17, further comprising advancing an access guidewire by a handle coupled to a proximal-end portion of the access guidewire into the blood-vessel lumen beyond a distal end of the cannula, the handle protruding through a longitudinal slit in a guidewire conduit coupled to the introducer needle.

19. The method of claim 18, wherein advancing the distal-end portion of the catheter tube into the blood-vessel lumen over the cannula includes advancing the catheter tube into the blood-vessel lumen with a single finger of a hand while holding the guidewire conduit between a thumb and another finger or fingers of the hand, the distal coupler including a tab configured for advancing the catheter tube into the blood-vessel lumen with the single finger.

20. The method of either claim 18 or 19, wherein advancing the distal-end portion of the catheter tube into the blood-vessel lumen over the cannula includes advancing the catheter tube into the blood-vessel lumen until a proximal coupler of the coupling system slidably attached to the guidewire conduit pushes the guidewire conduit out of the proximal coupler, the introducer including a proximal coupler-interacting portion configured to interact with sloped sides of the proximal coupler and push the guidewire conduit out of the proximal coupler.

21. The method of claim 20, further comprising advancing a maneuver guidewire into the blood-vessel lumen by way of a distal lumen having a distal-lumen aperture in the distal end of the RICC, the introducing lumen of the catheter tube coincident with a distal-end portion of the distal lumen.

22. The method of claim 21, further comprising advancing the distal-end portion of the catheter tube further into the blood-vessel lumen over the maneuver guidewire and concomitantly sliding the distal coupler proximally towards the proximal coupler to uncover the catheter tube, the catheter tube covered by a sterile barrier between the proximal coupler and the distal coupler in a ready-to-deploy state of the RICC assembly.

23. The method of claim 22, further comprising removing the sterile barrier and a remainder of the coupling system from the RICC by removing the proximal coupler from a

catheter hub of the RICC, pulling the sterile barrier away from the catheter tube to split the sterile barrier apart, and removing the distal coupler from the catheter tube to which the distal coupler is slidably attached.