

CLAIMS

What is claimed is:

1. A rapidly insertable central catheter (“RICC”) assembly, comprising:
a RICC including:
a soft catheter tube having an introducing aperture through a side of the soft catheter tube in a distal-end portion thereof, the introducing aperture opening into an introducing portion of a primary lumen of the RICC that extends from the introducing aperture to a distal end of the RICC;
a catheter hub coupled to a proximal-end portion of the soft 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; and
an introducer including:
an introducer catheter including a hard catheter tube having an introducing hole through a side of the hard catheter tube in a distal-end portion thereof, the introducing hole opening into an introducing portion of a single lumen of the introducer catheter that extends from the introducing hole to a distal end of the introducer catheter; and
an introducer needle, the introducer catheter disposed in the primary lumen of the RICC such that the distal end of the introducer catheter extends past the distal end of the RICC and the introducer needle disposed in the introducer catheter through both the introducing aperture and the introducing hole such that a beveled tip in a distal-end portion of the introducer needle extends past the distal end of the introducer catheter when the RICC assembly is in a ready-to-deploy state thereof.
2. The RICC assembly of claim 1, further comprising an access guidewire disposed in the introducer needle such that a distal end of the access guidewire is proximal of the beveled tip but distal of the distal end of the RICC when the RICC assembly is in the ready-to-deploy state.
3. The RICC assembly of claim 2, wherein the access guidewire includes a stop about a proximal-end portion of the access guidewire forming a stop end thereof, the stop end

of the access guidewire configured to provide a distal limit for advancing the access guidewire into the RICC.

4. The RICC assembly of any of claims 1-3, further comprising a maneuver guidewire disposed in the introducer catheter such that a distal end of the maneuver guidewire is proximal of the introducing hole but distal of the catheter hub when the RICC assembly is in the ready-to-deploy state.

5. The RICC assembly of claim 4, wherein the maneuver guidewire includes a stop about a proximal-end portion of the maneuver guidewire forming a stop end thereof, the stop end of the maneuver guidewire configured to provide a distal limit for advancing the maneuver guidewire into the RICC.

6. The RICC assembly of any of claims 1-5, wherein the soft catheter tube is formed of a first material having a first durometer and the hard catheter tube is formed of a second material having a second durometer greater than the first durometer, thereby providing the RICC assembly a column strength for advancing the RICC into a blood-vessel lumen over a guidewire.

7. The RICC assembly of any of claims 1-6, wherein the RICC includes a set of three lumens including the primary lumen, a secondary lumen, and a tertiary lumen formed of fluidly connected portions of three catheter-tube lumens, three hub lumens, and three extension-leg lumens.

8. The RICC assembly of claim 7, wherein the primary lumen has a primary-lumen aperture in the distal end of the RICC, the secondary lumen has a secondary-lumen aperture in the side of the soft catheter tube proximal of the primary-lumen aperture, and the tertiary lumen has a tertiary-lumen aperture in the side of the soft catheter tube proximal of the secondary-lumen aperture but distal of the introducing aperture.

9. A rapidly insertable central catheter ("RICC") assembly, comprising:
a RICC including:

a soft catheter tube having a primary-lumen aperture in a distal end of the soft catheter tube and a secondary-lumen aperture in a side of the soft catheter tube in a distal-end portion thereof;

a catheter hub coupled to a proximal-end portion of the soft 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; and
an introducer including:
an introducer catheter including a hard catheter tube having an introducing hole through a side of the hard catheter tube in a distal-end portion thereof; and
an introducer needle, the introducer catheter disposed in a primary lumen of the RICC such that a distal end of the introducer catheter extends past a distal end of the RICC and the introducer needle disposed in the introducer catheter through a combination of the secondary-lumen aperture, a septum dividing a secondary lumen from the primary lumen, and the introducing hole such that a beveled tip in a distal-end portion of the introducer needle extends past the distal end of the introducer catheter when the RICC assembly is in a ready-to-deploy state thereof.

10. The RICC assembly of claim 9, further comprising an access guidewire disposed in the introducer needle such that a distal end of the access guidewire is proximal of the beveled tip but distal of the distal end of the RICC when the RICC assembly is in the ready-to-deploy state.

11. The RICC assembly of claim 10, wherein the access guidewire includes a stop about a proximal-end portion of the access guidewire forming a stop end thereof, the stop end of the access guidewire configured to provide a distal limit for advancing the access guidewire into the RICC.

12. The RICC assembly of any of claims 9-11, further comprising a maneuver guidewire disposed in the introducer catheter such that a distal end of the maneuver guidewire is proximal of the introducing hole but distal of the catheter hub when the RICC assembly is in the ready-to-deploy state.

13. The RICC assembly of claim 12, wherein the maneuver guidewire includes a stop about a proximal-end portion of the maneuver guidewire forming a stop end thereof, the

stop end of the maneuver guidewire configured to provide a distal limit for advancing the maneuver guidewire into the RICC.

14. The RICC assembly of any of claims 9-13, wherein the soft catheter tube is formed of a first material having a first durometer and the hard catheter tube is formed of a second material having a second durometer greater than the first durometer, thereby providing the RICC assembly a column strength for advancing the RICC into a blood-vessel lumen over a guidewire.

15. The RICC assembly of any of claims 9-14, wherein the RICC includes a set of three lumens including the primary lumen, the secondary lumen, and a tertiary lumen formed of fluidly connected portions of three catheter-tube lumens, three hub lumens, and three extension-leg lumens.

16. The RICC assembly of claim 15, wherein the primary lumen has the primary-lumen aperture in the distal end of the RICC, the secondary lumen has the secondary-lumen aperture in the side of the soft catheter tube proximal of the primary-lumen aperture, and the tertiary lumen has a tertiary-lumen aperture in the side of the soft catheter tube proximal of the secondary-lumen aperture.

17. A method for using a rapidly insertable central catheter ("RICC) assembly, comprising:

obtaining a RICC assembly including the RICC and an introducer, the introducer including an introducer catheter disposed in a primary lumen of the RICC such that a distal-end portion of the introducer catheter extends past a distal end of the RICC;

establishing a needle tract from an area of skin to a blood-vessel lumen of a patient with a beveled tip of an introducer needle of the introducer, the introducer needle extending through a side of a soft catheter tube of the RICC, through a side of a hard catheter tube of the introducer catheter, and out the distal end of the introducer catheter;

advancing an access guidewire through the introducer needle and into the blood-vessel lumen of the patient; and

withdrawing the introducer needle from both the blood-vessel lumen and the RICC assembly leaving the access guidewire and the introducer catheter in the blood-vessel lumen.

18. The method of claim 17, further comprising ensuring the distal end of the introducer catheter extends at least about 1-7 cm beyond the distal end of the RICC before establishing the needle tract.

19. The method of either claim 17 or 18, further comprising advancing the distal-end portion of the introducer catheter into the blood-vessel lumen over the access guidewire.

20. The method of any of claims 17-19, further comprising advancing a maneuver guidewire through the introducer catheter and into the blood-vessel lumen.

21. The method of claim 20, wherein advancing the maneuver guidewire through the introducer catheter requires first withdrawing the introducer needle from both the blood-vessel lumen and the RICC assembly.

22. The method of any of claims 17-21, further comprising advancing both the distal-end portion of the introducer catheter and a distal-end portion of the RICC farther into the blood-vessel lumen over the maneuver guidewire.