

CLAIMS

What is claimed is:

1. An insertion device for inserting a catheter into a body of a patient, comprising:
 - a housing;
 - an at least partially hollow needle distally extending from the housing, at least a portion of the catheter pre-disposed over the needle such that the catheter is disposed substantially external to the housing;
 - a guidewire; and
 - an advancement assembly configured to selectively advance the distal end of the guidewire out a distal opening of the needle in preparation for distal advancement of the catheter, the advancement assembly further configured to enable selective advancement of the catheter in a distal direction,wherein the insertion device is configured to be grasped by a single hand of a user during use, and wherein advancement of the guidewire and the catheter by the advancement assembly is configured to be achieved by the single hand of the user,
 - wherein the advancement assembly further includes a telescoping portion that extends from the housing when the catheter is advanced in the distal direction.
2. The insertion device as defined in claim 1, wherein the advancement assembly includes a finger pad movable by the user to advance at least one of the guidewire and the catheter.
3. The insertion device as defined in claim 2, wherein the finger pad is slidably disposed with the housing.
4. The insertion device as defined in claim 3, wherein the finger pad is moved a first distance to extend the guidewire out the distal opening of the needle, and wherein the finger pad is moved a second distance, subsequent to moving the first distance, to extend the catheter in the distal direction.
5. The insertion device as defined in claim 4, wherein an advancement member is moved by the finger pad when the finger pad is moved the second distance, the catheter removably attached to the advancement member.

6. The insertion device as defined in claim 1, wherein the advancement assembly includes a first member used to advance the guidewire and a second member used to advance the catheter, and wherein movement of a finger of the user wherein the finger of the user is readily able to move from the first member to the second member without substantial repositioning of the finger.

7. The insertion device as defined in claim 6, wherein the first member is distally slidable to a distal termination point that is proximate a proximal commencement point of the second member.

8. The insertion device as defined in claim 1, wherein the advancement assembly is moved a first distance to extend the guidewire out the distal opening of the needle, and wherein the advancement assembly is moved a second distance, subsequent to moving the first distance, to extend the catheter in the distal direction.

9. The insertion device as defined in claim 8, wherein movement of the advancement assembly the second distance moves the catheter a first partial distance, and subsequent action by the user moves the catheter into a final position.

10. The insertion device as defined in claim 8, wherein further advancement of the guidewire is prevented after movement of the advancement assembly the first distance.

11. The insertion device as defined in claim 8, wherein movement of the advancement assembly the second distance results in full distal advancement of the catheter.

12. The insertion device as defined in claim 1, wherein the advancement assembly includes a guidewire advancement assembly and a catheter advancement assembly.

13. The insertion device as defined in claim 12, wherein the guidewire advancement assembly is configured to distally advance only the guidewire.

14. The insertion device as defined in claim 1, wherein the advancement assembly further includes a needle safety component configured to shield a distal tip of the needle after use of the insertion device.

15. The insertion device as defined in claim 1, wherein at least a portion of the guidewire includes a generally rounded rectangular cross-sectional profile.

16. The insertion device as defined in claim 1, wherein the guidewire includes a cross-sectional profile defining first and second notches that are longitudinally defined along at least a portion of a length of the guidewire.

17. The insertion device as defined in claim 1, wherein the guidewire includes a cross-sectional profile defining first, second, and third notches that are longitudinally defined along at least a portion of a length of the guidewire.

18. The insertion device as defined in claim 1, further including a continuous blood flash indicator configured to alert a user when blood is present in a lumen of the needle.

19. An insertion device for inserting a catheter into a body of a patient, comprising:

a housing;

a hollow needle distally extending from the housing, at least a portion of the catheter pre-disposed over the needle such that the catheter is disposed substantially external to the housing;

a guidewire;

a guidewire advancement assembly including a guidewire lever configured to selectively advance the distal end of the guidewire out a distal end of the needle, the guidewire advancement assembly further includes a guidewire lever including a finger pad movable by the user to advance the guidewire, the finger pad is slidably disposed with the housing; and

a catheter advancement assembly configured to enable advancement of the catheter in a distal direction,

wherein the finger pad is configured to move a first distance to cause the guidewire lever to extend the guidewire out the distal opening of the needle, and wherein the finger pad is configured to move a second distance, subsequent to

moving the first distance, to cause the guidewire lever to extend the catheter in the distal direction,

wherein an advancement member is configured to move distally by the guidewire lever when the finger pad is moved the second distance, the advancement member initially substantially disposed within the housing prior to movement, the catheter removably attached to the advancement member,

wherein distal movement of the advancement member moves the catheter a first partial distance distally, the catheter being movable into a final position by subsequent action by the user,

wherein at least one tab is included on the advancement member to enable manual advancement by the user of the advancement member;

wherein the insertion device is configured to be grasped by a single hand of a user during use, and wherein advancement of the guidewire and the catheter is configured to be achieved by the single hand of the user, wherein grip surfaces and the finger pad are placed in convenient locations for the user to grasp the device, together with enabling the finger pad and guidewire advancement assembly to be used to advance the guidewire and the catheter a predetermined distance, followed by manual advancement of the advancement member by a finger of the user;

wherein the advancement member includes a distal portion, the distal portion including first and second engagement tabs configured to releasably constrain the catheter in place over the needle before advancement of the advancement member, the needle initially disposed between the engagement tabs to cause the engagement tabs to engage the catheter, wherein the engagement tabs release from engagement with the catheter after the advancement member has been distally advanced past the distal end of the needle such that the needle is no longer disposed between the engagement tabs.

20. The insertion device as defined in claim 19, wherein the advancement member is configured to shield the distal end of the needle after the advancement member has been fully distally advanced.

21. The insertion device as defined in claim 20, wherein the advancement member includes one or more locking tabs that engage with a portion of the housing after full distal advancement of the advancement member to prevent re-entry of the advancement member into the housing.

22. The insertion device as defined in claim 21, further including a continuous blood flash indicator configured to alert a user when blood is present in a lumen of the needle, comprising:

a first notch defined in a side wall of the needle to enable blood to pass therethrough from a lumen of the needle when the distal end of the needle is disposed in a blood-carrying vessel of a patient; and

a flash indicator configured to indicate the presence of blood within the lumen of the needle, the flash indicator including a translucent flash chamber disposed about the needle so as to enclose the first notch and configured such that blood present in the needle lumen passes from the lumen of the needle via the first notch to the flash chamber so as to be observable to a user of the insertion device.

23. The insertion device as defined in claim 22, wherein the flash chamber is sealed about the needle.

24. The insertion device as defined in claim 23, further comprising a second notch enclosed by the flash chamber, the second notch configured to enable blood present in the flash chamber to re-enter the lumen of the needle.

25. The insertion device as defined in claim 24, wherein the insertion device includes indicia configured to meter a quantity of blood disposed in the flash chamber.

26. The needle assembly as defined in claim 25, wherein the indicia include a plurality of ribs that span a distal portion of the advancement member indicia in proximity to the flash chamber, the blood disposed in the flash chamber observable by the user through the ribs.

27. The insertion device as defined in claim 26, wherein the guidewire includes a proximal end secured to a portion of the housing, a distal end pre-disposed within the needle, and an intermediate portion substantially defining a U-shaped bend.

28. The insertion device as defined in claim 27, wherein the distal end of the guidewire includes an atraumatic feature including at least one of a J-tip, an attached ball, a whisk structure, and a curled configuration.

29. The insertion device as defined in claim 19, wherein the guidewire advancement assembly is configured to prevent advancement of the catheter until distal advancement of the guidewire is performed.

30. The insertion device as defined in claim 19, wherein the needle is secured within the housing by a needle hub, the needle hub integrally formed with the housing, the needle hub including a pocket configured to received therein an adhesive so as to secure the needle in the needle hub.

31. The insertion device as defined in claim 19, wherein the catheter advancement assembly includes a plurality of outwardly extending wings configured to prevent a re-entry of the catheter advancement member into the housing after distal advancement of the catheter.