

CLAIMS

1. A delivery device to deliver a guidewire into a catheter assembly, the delivery device comprising:

a syringe, comprising a barrel and a plunger movable within the barrel, wherein the plunger comprises a handle and a stopper coupled to a distal end of the handle, wherein the stopper comprises a channel; and

a guidewire disposed within the barrel and extending through the channel, wherein in response to depression of the plunger, the guidewire moves through the channel and a first end of the guidewire is advanced in the distal direction, wherein a second end of the guidewire is fixed,

wherein air is disposed within the barrel, wherein the barrel comprises a plurality of vent holes, wherein in response to the depression of the plunger, the air exits the vent holes.

2. A delivery device to deliver a guidewire into a catheter assembly, the delivery device comprising:

a syringe, comprising a barrel and a plunger movable within the barrel, wherein the plunger comprises a handle and a stopper coupled to a distal end of the handle, wherein the stopper comprises a channel; and

a guidewire disposed within the barrel and extending through the channel, wherein in response to depression of the plunger, the guidewire moves through the channel and a first end of the guidewire is advanced in the distal direction, wherein a second end of the guidewire is fixed,

wherein the barrel contains a liquid, wherein the syringe further comprises a flexible housing disposed within the barrel, wherein the flexible housing prevents contact between the liquid and at least a portion of the guidewire, wherein the portion of the guidewire is surrounded by the flexible housing, wherein the housing is configured to compress in response to the plunger being depressed.

3. A delivery device to deliver a guidewire into a catheter assembly, the delivery device comprising:

a syringe, comprising a barrel and a plunger movable within the barrel, wherein the plunger comprises a handle and a stopper coupled to a distal end of the handle, wherein the stopper comprises a channel; and

a guidewire disposed within the barrel and extending through the channel, wherein in response to depression of the plunger, the guidewire moves through the channel and a first end of the guidewire is advanced in the distal direction, wherein a second end of the guidewire is fixed,

wherein the syringe further comprises a biasing member disposed within the barrel distal to the stopper, wherein the biasing member is compressed in response to depression of the plunger.

4. A delivery device to deliver a guidewire into a catheter assembly, the delivery device comprising:

a syringe, comprising a barrel and a plunger movable within the barrel, wherein the plunger comprises a handle and a stopper coupled to a distal end of the handle, wherein the stopper comprises a channel; and

a guidewire disposed within the barrel and extending through the channel, wherein in response to depression of the plunger, the guidewire moves through the channel and a first end of the guidewire is advanced in the distal direction, wherein a second end of the guidewire is fixed,

wherein the syringe further comprises a biasing member disposed between the stopper and the handle, wherein the biasing member expands in response to retraction of the handle.

5. A delivery device to deliver a guidewire into a catheter assembly, the delivery device comprising:

a syringe, comprising a barrel and a plunger movable within the barrel, wherein the plunger comprises a handle and a stopper coupled to a distal end of the handle, wherein the stopper comprises a channel; and

a guidewire disposed within the barrel and extending through the channel, wherein in response to depression of the plunger, the guidewire moves through the channel and a first end of the guidewire is advanced in the distal direction, wherein a second end of the guidewire is fixed,

further comprising a housing coupled to the distal end of the syringe, wherein the housing comprises saline, wherein an entirety of the guidewire is disposed proximal to the housing.

6. A delivery device to deliver a guidewire into a catheter assembly, the device comprising:

a syringe, comprising a barrel and a plunger movable within the barrel, wherein the plunger comprises a handle and a stopper coupled to a distal end of the handle, wherein the stopper comprises a channel; and

a guidewire disposed within the barrel and extending through the channel, wherein in response to depression of the plunger, the guidewire moves through the channel and a first end of the guidewire is advanced in the distal direction, wherein a second end of the guidewire is fixed,

wherein guidewire forms one or more loops.

7. A delivery device to deliver a guidewire into a catheter assembly, the delivery device comprising:

a syringe, comprising a barrel and a plunger movable within the barrel, wherein the plunger comprises a handle and a stopper disposed at a distal end of the handle, wherein the syringe further comprises a channel, wherein a U-shaped portion of the channel is disposed within the handle, wherein another portion of the channel extends through the stopper; and

a guidewire disposed within the barrel and extending through the channel, wherein in response to depression of the handle in a distal direction, the stopper moves in a distal direction to a distal position, the guidewire moves through the channel, and a first end of the guidewire is advanced in the distal direction, wherein a second end of the guidewire is fixed, wherein in response to retraction of the handle in a proximal direction, the stopper remains in the distal position, the guidewire moves through the channel, and a first end of the guidewire is retracted in the proximal direction.

8. The delivery device of claim 7, wherein the barrel contains a liquid, wherein in response to the depression of the plunger, the liquid exits a distal opening of the syringe, wherein a diameter of the distal opening of the syringe is greater than an outer diameter of the guidewire.

9. The delivery device of claim 7, wherein air is disposed within the barrel, wherein the barrel comprises a plurality of vent holes, wherein in response to the depression of the plunger, the air exits the vent holes.
10. The delivery device of claim 7, wherein in response to the depression of the plunger, the stopper is moved in the distal direction a first distance, and the first end of the guidewire is advanced in the distal direction a second distance, wherein the second distance is greater than the first distance.
11. The delivery device of claim 7, wherein the barrel contains a liquid, wherein the syringe further comprises a flexible housing disposed within the barrel, wherein the flexible housing prevents contact between the liquid and at least a portion of the guidewire, wherein the portion of the guidewire is surrounded by the flexible housing, wherein the housing is configured to compress in response to the plunger being depressed.
12. The delivery device of claim 7, wherein the syringe further comprises a biasing member disposed within the barrel distal to the stopper, wherein the biasing member is compressed in response to depression of the plunger.
13. The delivery device of claim 7, wherein the syringe further comprises a biasing member disposed between the U-shaped portion and the handle, wherein the biasing member expands in response to retraction of the handle in the proximal direction.
14. A delivery device for delivering a guidewire into a catheter assembly, the delivery device comprising:

a first syringe, comprising a first barrel and a first plunger movable within the first barrel, wherein the first plunger comprises a first handle and a first stopper coupled to a distal end of the first handle, wherein the first stopper comprises a channel, wherein air is disposed within the first

barrel, wherein the first barrel comprises a plurality of vent holes, wherein in response to the depression of the first plunger, the air exits the vent holes;

a guidewire disposed within the first barrel and extending through the channel, wherein in response to depression of the first plunger, the guidewire moves through the channel, and a first end of the guidewire is advanced in the distal direction, wherein a second end of the guidewire is fixed;

a second syringe, comprising a second barrel and a second plunger movable within the second barrel, wherein the second plunger comprises a second handle and a second stopper coupled to a distal end of the second handle, wherein the second barrel contains a liquid, wherein in response to the depression of the second plunger, the liquid exits a distal opening of the second syringe; and

an adapter comprising a first port, a second port, and a third port, wherein the first port is coupled to a distal end of the first syringe, wherein the second port is coupled to a distal end of the second syringe, wherein the third port is configured to couple to the catheter assembly.

15. The delivery device of claim 14, wherein the first barrel and the second barrel are integrally formed.
16. The delivery device of claim 14, wherein the first plunger is coupled to the second plunger such that they move together during operation.
17. The delivery device of claim 14, wherein the first port is integrally formed with the first syringe or the second port is integrally formed with the second syringe.