

CLAIMS

1. A delivery device for delivering an instrument through an intravenous catheter, comprising:

a housing having an upper opening defining a generally cylindrical inner surface, the housing have an outlet in fluid communication with the generally cylindrical inner surface and extending outwardly from an outer surface of the housing, wherein the outlet is configured to couple to a proximal end of a catheter adapter;

a rotary element disposed within the housing and comprising a generally cylindrical outer surface configured to rotate about a central axis of rotation of the rotary element and with respect to the housing, the generally cylindrical outer surface having a groove extending around at least a portion of a circumference of the rotary element, the rotary element further comprising a connector extending outwardly from the central axis of rotation of the rotary element and configured to receive at least one of a blood collection device, and a blood draw tubing, wherein the blood collection device or the blood draw tubing remains stationary in response to rotation of the rotary element; and

the instrument having a proximal end, a distal end, and a middle portion extending therebetween, wherein the proximal end and middle portion are disposed within the groove, and the distal end is positioned within the outlet, wherein in response to rotation of the rotary element with respect to the housing, the distal end and a portion of the middle portion are advanced distally through the outlet,

wherein the groove extends inwardly from the circumference toward the central axis of rotation of the rotary element, and the groove includes a width slightly greater than the instrument,

so that the groove could facilitate support of the instrument and/or decrease a risk of kinking of the instrument.

2. The delivery device of claim 1, wherein the instrument is a guidewire.
3. The catheter system of claim 2, wherein the proximal end of the guidewire is secured within the delivery device.
4. The delivery device of claim 1, wherein the instrument is a probe.
5. The delivery device of claim 1, wherein the outlet is offset from the central axis of rotation.
6. The delivery device of claim 1, wherein the instrument comprises a light tube.
7. The delivery device of claim 5, wherein the outlet comprises a septum configured to maintain a seal when the instrument is moved through the septum.
8. The delivery device of claim 7, wherein the connector is coupled to a top or bottom of the rotary element.
9. The delivery device of claim 8, wherein the blood collection device or the blood draw tubing extends from the top or the bottom of the rotary element at the central axis of rotation of the rotary element.
10. A catheter system, comprising:
 - a catheter assembly, comprising:
 - a catheter adapter having a distal end; and
 - a catheter coupled to the distal end and extending distally from the catheter adapter;
 - and
 - a delivery device coupled to the catheter assembly, comprising:
 - a housing having an upper opening defining a generally cylindrical inner surface,
 - the housing having an outlet in fluid communication with the generally cylindrical inner

surface and extending outwardly from an outer surface of the housing, wherein the outlet is configured to couple to a proximal end of a catheter adapter;

a rotary element disposed within the housing and comprising a generally cylindrical outer surface configured to rotate about a central axis of rotation of the rotary element with respect to the housing, the generally cylindrical outer surface having a groove extending around at least a portion of a circumference of the rotary element, the rotary element further comprising a connector extending outwardly from the central axis of rotation of the rotary element and configured to receive at least one of a blood collection device, and a blood drawing tube, wherein the blood collection device or the blood drawing tube remains stationary in response to rotation of the rotary element; and

an instrument having a proximal end, a distal end, and a middle portion extending therebetween, wherein the proximal end and middle portion are disposed within the groove, and the distal end is positioned within the outlet, wherein in response to rotation of the rotary element with respect to the housing in a first direction, the distal end and a portion of the middle portion of the instrument are advanced distally through the outlet,

wherein the groove extends inwardly from the circumference toward the central axis of rotation of the rotary element, and the groove includes a width slightly greater than the instrument, so that the groove could facilitate support of the instrument and/or decrease a risk of kinking of the instrument.

11. The catheter system of claim 10, wherein the instrument is a guidewire.
12. The catheter system of claim 11, wherein the proximal end of the guidewire is secured within the delivery device.
13. The catheter system of claim 10, wherein the instrument is a probe.

14. The catheter system of claim 10, wherein the outlet is offset from the central axis of rotation.
15. The catheter system of claim 10, wherein the instrument comprises a light tube.
16. The catheter system of claim 10, wherein the outlet comprises a septum configured to maintain a seal when the instrument is moved through the septum.
17. The catheter system of claim 14, wherein the connector is coupled to a top or bottom of the rotary element.
18. The catheter system of claim 17, wherein the blood collection device of the blood draw tubing extends from the top or the bottom of the rotary element at the central axis of rotation of the rotary element.