

CLAIMS

We claim:

1. A catheter system, comprising:

a catheter assembly, comprising:

a catheter adapter, comprising a distal end, a proximal end, and a lumen extending through the distal end and the proximal end; and

a catheter extending from the distal end of the catheter adapter; and

a needle assembly, comprising:

a needle hub;

an introducer needle secured within the needle hub and extending through the catheter,

a barrel comprising a proximal end and a distal end, wherein the needle hub is slidably disposed in the barrel, wherein the barrel is generally hollow;

a spring disposed about the introducer needle;

an activation latch comprising a top and a bottom, wherein the activation latch is adapted for selective engagement with the needle hub to hold the needle hub adjacent to the distal end of the barrel against the bias of the spring such that the introducer needle extends beyond the distal end of the barrel and through the catheter, wherein the activation latch comprises a projection disposed within the proximal end of the catheter adapter to prevent movement of the activation latch when the catheter adapter is adjacent to the distal end of the barrel; and

a cover coupled to the distal end of the barrel and extending proximally over at least a portion of the top of the activation latch to prevent premature depression of the activation

latch, wherein the catheter assembly is configured to advance distally with respect to the needle assembly and the cover.

2. The catheter system of claim 1, wherein a proximal end of the cover is unsupported by the barrel.
3. The catheter system of claim 1, wherein a plurality of sides of the proximal end of the cover contact and are supported by the barrel.
4. The catheter system of claim 1, wherein the projection is disposed adjacent the bottom of the activation latch.

5. A catheter system, comprising:

a catheter assembly, comprising:

a catheter adapter, comprising a distal end, a proximal end, and a lumen extending through the distal end and the proximal end;

a catheter extending from the distal end of the catheter adapter; and

a needle assembly, comprising:

a needle hub;

an introducer needle secured within the needle hub and extending through the catheter,

a barrel comprising a proximal end and a distal end, wherein the needle hub is slidably disposed in the barrel, wherein the barrel is generally hollow, wherein the barrel comprises a protrusion;

a spring disposed about the introducer needle;

an activation latch comprising a top and a bottom and slidable from a distal position to a proximal position with respect to the barrel, wherein the activation latch further

comprises a projection, wherein the activation latch is adapted for selective engagement with the needle hub to hold the needle hub adjacent to the distal end of the barrel against the bias of the spring such that the introducer needle extends beyond the distal end of the barrel and through the catheter, wherein in response to the activation latch being in the distal position, the protrusion contacts the projection of the activation latch and depression of the activation latch is prevented, wherein in response to sliding of the activation latch from the distal position to the proximal position, the protrusion does not contact the projection of the activation latch and the activation latch is configured to depress.

6. The catheter system of claim 5, wherein a proximal end of the top of the activation latch comprises a raised surface configured to contact a finger when the finger slides the activation latch from the distal position to the proximal position.
7. The catheter system of claim 5, wherein the top of the activation latch comprises a plurality of grooves generally perpendicular to a longitudinal axis of the catheter.
8. The catheter system of claim 5, wherein the projection is disposed within the proximal end of the catheter adapter.
9. The catheter system of claim 8, wherein the protrusion is disposed within the proximal end of the catheter adapter between the projection and the catheter adapter.
10. The catheter system of claim 8, wherein an inner surface of the barrel comprises a groove configured to receive the bottom of the activation latch and the projection in response to the activation latch sliding from the distal position to the proximal position.

11. The catheter system of claim 5, wherein a bottom surface of the top of the activation latch comprises a first protrusion, wherein the protrusion is a second protrusion, wherein in response to the activation latch being in the distal position, the first protrusion and the second protrusion are aligned, wherein in response to sliding of the activation latch from the distal position to the proximal position, the first protrusion slides proximal to the second protrusion and the activation latch is configured to depress.
12. A catheter system, comprising:
a catheter assembly, comprising:
a catheter adapter, comprising a distal end, a proximal end, and a lumen extending through the distal end and the proximal end;
a catheter extending from the distal end of the catheter adapter; and
a needle assembly, comprising:
a needle hub;
an introducer needle secured within the needle hub and extending through the catheter,
a barrel comprising a proximal end and a distal end, wherein the needle hub is slidably disposed in the barrel, wherein the barrel is generally hollow, wherein the barrel comprises a protrusion;
a spring disposed about the introducer needle;
an activation latch comprising a top and a bottom and slidable from a proximal position to a distal position with respect to the barrel, wherein the activation latch further comprises a projection, wherein the activation latch is adapted for selective engagement

with the needle hub to hold the needle hub adjacent to the distal end of the barrel against the bias of the spring such that the introducer needle extends beyond the distal end of the barrel and through the catheter,

wherein in response to the activation latch being in the proximal position, the protrusion contacts the projection of the activation latch and depression of the activation latch is prevented, wherein in response to sliding of the activation latch from the proximal position to the distal position, the protrusion does not contact the projection of the activation latch and the activation latch is configured to depress.

13. The catheter system of claim 12, wherein a distal end of the top of the activation latch comprises a raised surface configured to contact a finger when the finger slides the activation latch from the proximal position to the distal position.
14. The catheter system of claim 12, wherein the top of the activation latch comprises a plurality of grooves generally perpendicular to a longitudinal axis of the catheter.
15. The catheter system of claim 12, wherein the projection is disposed within the proximal end of the catheter adapter.
16. The catheter system of claim 15, wherein the bottom of the activation latch comprises the projection having a stepped surface, wherein in response to the activation latch being in the proximal position, the protrusion is engaged with the stepped surface and depression of the activation latch is prevented, wherein in response to sliding of the activation latch from the proximal position to the distal position, the protrusion does not contact the stepped surface and the activation latch is configured to depress.

17. The catheter system of claim 15, wherein a bottom surface of the top of the activation latch comprises a first protrusion, wherein the protrusion is a second protrusion extending outwardly from the barrel, wherein in response to the activation latch being in the proximal position, the first protrusion and the second protrusion are aligned, wherein in response to sliding of the activation latch from the proximal position to the distal position, the first protrusion slides distal to the second protrusion and the activation latch is configured to depress.