CLAIMS

1. A needle shield device, comprising:

a needle housing, comprising:

an elongated body having a distal end, a proximal end, and a slot disposed between the distal end and the proximal end, wherein a distal portion of the slot is sealed; and

a nose portion coupled to the distal end of the elongated body, wherein the nose portion is configured to be inserted into a catheter, wherein the nose portion comprises an elongated extension disposed on a single side of the nose portion and extending proximally along the slot to seal the distal portion of the slot, wherein the elongated extension seals the distal portion of the slot; and

a needle assembly slideably coupled to the needle housing, comprising:

an introducer needle comprising a sharp distal tip and a proximal end;

a needle grip; and

a needle hub having a protuberance, wherein the proximal end of the introducer needle is secured within the needle hub, wherein the protuberance is coupled to the needle grip, wherein the protuberance slideably fits within the slot, wherein the needle assembly is moveable between a distal position and a proximal position with respect to the needle housing, wherein in response to movement of the needle assembly to the proximal position, the sharp distal tip is disposed within the needle housing.

~~2. The needle shield device of claim 1, wherein the nose portion comprises an elongated extension, wherein the elongated extension seals the distal portion of the slot.~~

~~3. The needle shield device of claim 2, wherein the elongated extension is disposed outside of the elongated body.~~

~~4~~2. The needle shield device of claim ~~2~~1, wherein the elongated extension is disposed inside the elongated body.

~~5~~3. The needle shield device of claim 1, further comprising adhesive tape adhered to the elongated body, wherein the adhesive tape seals the distal portion of the slot.

~~6~~4. The needle shield device of claim 1, further comprising an insert disposed within the elongated body, wherein the insert comprises a tubular sleeve, wherein the insert seals the distal portion of the slot.

~~7~~5. The needle shield device of claim ~~4~~6, wherein the insert and the nose portion are monolithically formed as a single unit.

~~8~~6. The needle shield device of claim 1, further comprising an insert disposed within the elongated body, wherein the insert comprises a reservoir, wherein the insert seals the distal portion of the slot.

~~9~~7. The needle shield device of claim ~~8~~6, wherein the insert and the nose portion are monolithically formed as a single unit.

~~10~~8. The needle shield device~~catheter system~~ of claim 1, wherein the needle hub includes a flashback chamber.

~~11~~9. The needle shield device~~catheter system~~ of claim 1, wherein the flashback chamber extends adjacent the proximal end of the needle grip.

~~12~~10. The needle shield device~~catheter system~~ of claim 1, wherein the nose portion comprises a plurality of channels configured to direct blood away from the slot.

~~13~~11. The needle shield device~~catheter system~~ of claim 1, further comprising an inner barrel disposed within the elongated body, wherein the inner barrel includes another slot extending from a distal end of the inner barrel, wherein the protuberance ~~slideably~~ slidably fits within the other slot of the inner barrel and the slot of the elongated body, wherein in response movement of the needle grip to the proximal position, the inner barrel rotates with respect to the elongated body to seal the distal portion of the slot of the elongated body.

14. A catheter system, comprising:

a catheter assembly, comprising:

a catheter adapter having a distal end, a proximal end, and a lumen extending therebetween; and

a catheter having a distal end and a proximal end, wherein the proximal end is secured within the catheter adapter; and

a needle shield device coupled to the proximal end of the catheter adapter, comprising:

a needle housing, comprising:

an elongated body having a distal end, a proximal end, and a slot disposed between the distal end and the proximal end, wherein a distal portion of the slot is sealed; and

a nose portion coupled to the distal end of the elongated body, wherein the nose portion is configured to be inserted into a catheter adapter;

a needle assembly slideably coupled to the needle housing, comprising:

a needle grip;

a needle hub comprising a flashback chamber, wherein the proximal end of the introducer needle is secured within the needle hub, wherein the needle hub further comprises a protuberance coupled to the needle grip, wherein the protuberance is configured to slideably fit within the slot, wherein the needle assembly is moveable between a distal position and a proximal position, wherein in response to movement of the needle assembly to the proximal position, the sharp distal tip is disposed within the needle housing; and

an introducer needle comprising a sharp distal tip and a proximal end, wherein the introducer needle comprises a notch proximate the distal end of the catheter.

15. The catheter system of claim 14, wherein the nose portion comprises an elongated extension, wherein the elongated extension seals the distal portion of the slot.

16. The catheter system of claim 14, further comprising an insert disposed within the elongated body, wherein the insert comprises a tubular sleeve or a reservoir, wherein the insert seals the distal portion of the slot.

17. A needle shield device, comprising:

a needle housing, comprising:

an elongated body having a distal end, a proximal end, a slot disposed between the distal end and the proximal end, wherein a distal portion of the slot is sealed;

a nose portion coupled to the distal end of the elongated body, wherein the nose portion is configured to be inserted into a catheter adapter; and

a septum disposed within the elongated body or the nose portion;

a needle assembly slideably coupled to the needle housing, comprising:

an introducer needle comprising a sharp distal tip and a proximal end, wherein the introducer needle extends through the septum;

a needle grip; and

a needle hub comprising a flashback chamber, wherein the proximal end of the introducer needle is secured within the needle hub, wherein the needle hub further comprises a protuberance coupled to the needle grip, wherein the protuberance is configured to slideably fit within the slot, wherein the needle assembly is moveable between a distal position and a proximal position, wherein in response to movement of the

~~needle assembly to the proximal position, the sharp distal tip is disposed within the needle housing.~~

~~18. The needle shield device of claim 17, wherein the septum is disposed within the nose portion.~~

~~19. The needle shield device of claim 18, further comprising a lube disposed within the nose portion.~~

~~20. The needle shield device of claim 17, wherein the septum is disposed within the elongated body, further comprising a lube disposed within the nose portion.~~

12. A needle shield device, comprising:

a needle housing, comprising:

an elongated body having a distal end, a proximal end, and a slot disposed between the distal end and the proximal end, wherein a distal portion of the slot is sealed;

a nose portion coupled to the distal end of the elongated body, wherein the nose portion is configured to be inserted into a catheter adapter; and

an inner barrel disposed within the elongated body, wherein the inner barrel includes another slot extending from a distal end of the inner barrel, wherein the protuberance slidably fits within the other slot of the inner barrel and the slot of the elongated body, wherein in response to movement of the needle grip to the proximal position, the inner barrel rotates with respect to the elongated body to seal the distal portion of the slot of the elongated body; and

a needle assembly slideably coupled to the needle housing, comprising:

an introducer needle comprising a sharp distal tip and a proximal end;

a needle grip; and

a needle hub having a protuberance, wherein the proximal end of the introducer needle is secured within the needle hub, wherein the protuberance is coupled to the needle grip, wherein the protuberance slideably fits within the slot, wherein the needle assembly is moveable between a distal position and a proximal position with respect to the needle housing, wherein in response to movement of the needle assembly to the proximal position, the sharp distal tip is disposed within the needle housing.

13. The needle shield device of claim 12, wherein the septum is disposed within the nose portion.

14 The needle shield device of claim 13, further comprising a lube disposed within the nose portion.

15. The needle shield device of claim 12, wherein the septum is disposed within the elongated body, further comprising a lube disposed within the nose portion.