

CLAIMS

1. ~~A sealed retractable needle assembly, comprising:
a needle assembly comprised of a needle hub and a needle securely coupled to the needle hub;
a resiliently deflectable actuator arm extending from the needle hub and having an actuator button formed thereon;
a barrel having proximal and distal ends and a passage extending therebetween, wherein the needle assembly is slidably disposed within the passage and the needle assembly and the actuator arm are axially movable relative to the barrel from a distal position where the needle projects distally beyond the distal end of the barrel and a proximal position where the needle is entirely contained within the barrel, and wherein the barrel defines an aperture extending therethrough, which aperture engages the actuator button when the needle hub is in the distal position and the actuator button disengages the aperture when the actuator arm is resiliently deflected;
a spring disposed in the barrel for propelling the needle assembly to the proximal position when the actuator arm is deflected and the actuator button disengages the aperture;
a septum fitted within the distal end of the barrel, wherein the needle extends through the septum when the needle is in the distal position, and wherein the septum seals the barrel when the needle is in the proximal position; and
an annular sleeve rotatably disposed about a circumference of the proximal end of the barrel, wherein the sleeve is selectively rotatable between a first position and a second position, and wherein the sleeve comprises a cover and a slot, wherein the cover obscures the aperture and the actuator button when the sleeve is in the first position, and wherein the aperture and the actuator button are accessible through the slot when the sleeve is in the second position.~~
2. ~~The sealed retractable needle assembly of claim 1, further comprising an absorbent sponge fitted in proximity to the septum within the distal end of the barrel, wherein the needle extends through the sponge when the needle is in the distal position, and wherein the sponge absorbs and retains any fluid on the outside of the needle as the needle is retracted into the proximal position.~~
3. ~~The sealed retractable needle assembly of claim 1, wherein the slot extends 180° around the circumference of the sleeve.~~

4. ~~The sealed retractable needle assembly of claim 3, wherein the sleeve prevents the needle assembly from being inadvertently propelled into the proximal position when the sleeve is in the first position, and wherein the sleeve must be rotated to the second position before the actuator arm can be deflected such that the actuator button disengages the aperture and the needle assembly is propelled under the spring force into the proximal position.~~

5. ~~The sealed retractable needle assembly of claim 2, wherein the actuator button includes a first interlocking edge and the aperture includes a corresponding second interlocking edge.~~

6. ~~The sealed retractable needle assembly of claim 5, wherein the first and second interlocking edges interlock when the needle hub is in the distal position and the actuator button engages the aperture.~~

7. ~~The sealed retractable needle assembly of claim 6, wherein the spring biases the first and second interlocking edges into interlocking engagement when the needle hub is in the distal position and the actuator button engages the aperture.~~

8. ~~The sealed retractable needle assembly of claim 7, wherein the interlocking engagement of the interlocking edges prevents the needle assembly from being inadvertently propelled into the proximal position, and wherein the needle assembly must be moved distally against the spring bias until the interlocking edges disengage before the actuator arm can be deflected such that the actuator button disengages the aperture and the needle assembly is propelled under the spring force into the proximal position.~~

9. ~~A sealed retractable needle assembly, comprising:
a needle assembly comprised of a needle hub and a needle securely coupled to the needle hub;
a resiliently deflectable actuator arm extending from the needle hub and having an actuator button formed thereon;
a barrel having proximal and distal ends and a passage extending therebetween, wherein the needle assembly is slidably disposed within the passage such that the needle assembly and the actuator arm are axially movable relative to the barrel from a distal~~

~~position where the needle projects distally beyond the distal end of the barrel and a proximal position where the needle is entirely contained within the barrel, and wherein the barrel defines an aperture extending therethrough, which aperture engages the actuator button when the needle hub is in the distal position and the actuator button disengages the aperture when the actuator arm is resiliently deflected;~~

~~a spring disposed in the barrel for propelling the needle assembly to the proximal position when the actuator arm is deflected and the actuator button disengages the aperture;~~

~~a septum fitted within the distal end of the barrel, wherein the needle extends through the septum when the needle is in the distal position, and wherein the septum seals the barrel when the needle is in the proximal position; and~~

~~an annular sleeve rotatably disposed about a circumference of the proximal end of the barrel, wherein the sleeve is selectively rotatable between a first position and a second position, and wherein the sleeve comprises a cover and a slot, wherein the cover obscures the aperture and the actuator button when the sleeve is in the first position, and wherein the aperture and the actuator button are accessible through the slot when the sleeve is in the second position.~~

10. ~~The sealed retractable needle assembly of claim 9, further comprising an absorbent sponge fitted proximally of the septum within the distal end of the barrel, wherein the needle extends through the sponge when the needle is in the distal position, and wherein the sponge absorbs and retains any fluid on the outside of the needle as the needle is retracted into the proximal position.~~

11. ~~The sealed retractable needle assembly of claim 10, further comprising at least one resiliently deflectable locking finger extending from the barrel, wherein the at least one locking is configured to lockingly engage the needle hub when the needle hub reaches the proximal position.~~

12. ~~The sealed retractable needle assembly of claim 11, wherein the sleeve prevents the needle assembly from being inadvertently propelled into the proximal position when the sleeve is in the first position, and wherein the sleeve must be rotated to the second position before the actuator arm can be deflected such that the actuator button disengages the aperture and the needle assembly is propelled under the spring force into the proximal position.~~

13. ~~A sealed retractable needle assembly, comprising:~~
~~a needle assembly comprised of a needle hub and a needle securely coupled to the needle hub; a resiliently deflectable actuator arm extending from the needle hub and having an actuator button formed thereon, wherein the actuator button includes a first interlocking edge;~~
~~a barrel having proximal and distal ends and a passage extending therebetween, wherein the needle assembly is slidably disposed within the passage such that the needle assembly and the actuator arm are axially movable relative to the barrel from a distal position where the needle projects distally beyond the distal end of the barrel and a proximal position where the needle is entirely contained within the barrel, and wherein the barrel defines an aperture extending therethrough, which aperture includes a second interlocking edge which corresponds with and interlockingly engages the first interlocking edge of the actuator button when the needle hub is in the distal position;~~
~~a spring disposed in the barrel for propelling the needle assembly to the proximal position when the actuator arm is deflected;~~
~~a septum fitted within the distal end of the barrel, wherein the needle extends through the septum when the needle is in the distal position, and wherein the septum seals the barrel when the needle is in the proximal position; and~~
~~an annular sleeve rotatably disposed about a circumference of the proximal end of the barrel, wherein the sleeve is selectively rotatable between a first position and a second position, and wherein the sleeve comprises a cover and a slot, wherein the cover obscures the aperture and the actuator button when the sleeve is in the first position, and wherein the aperture and the actuator button are accessible through the slot when the sleeve is in the second position.~~
14. ~~The sealed retractable needle assembly of claim 13, further comprising an absorbent sponge fitted proximally of the septum within the distal end of the barrel, wherein the needle extends through the sponge when the needle is in the distal position, and wherein the sponge absorbs and retains any fluid on the outside of the needle as the needle is retracted into the proximal position.~~
15. ~~The sealed retractable needle assembly of claim 14, wherein the spring biases the first and second interlocking edges into interlocking engagement when the needle hub is in the distal position.~~
16. ~~The sealed retractable needle assembly of claim 15, wherein the interlocking~~

~~engagement of the interlocking edges prevents the needle assembly from being inadvertently propelled into the proximal position, and wherein the needle assembly must be moved distally against the spring bias until the interlocking edges disengage before the actuator arm can be deflected such that the actuator button disengages the aperture and the needle assembly is propelled under the spring force into the proximal position~~

~~17. The sealed retractable needle assembly of claim 16, further comprising at least one resiliently deflectable locking finger extending from the barrel, wherein the at least one locking is configured to lockingly engage the needle hub when the needle hub reaches the proximal position.~~

CLAIMS

1. A medical device, comprising:

a needle assembly (16) comprised of a needle hub (36) and a needle (34) securely coupled to the needle hub (36), the needle hub (36) having a proximal end (46), a distal end (48), and a fluid communication pathway (50) extending therebetween;

a resiliently deflectable actuator arm (60) extending from the needle hub (36) and having an actuator button (64) formed thereon, wherein the actuator arm (60) is cantilevered;

a barrel having proximal and distal ends and a passage extending therebetween, wherein the needle hub (36) is slidably disposed within the passage and the needle hub (36) is axially movable relative to the barrel from a distal position where the needle (34) projects distally beyond the distal end of the barrel and a proximal position where the needle (34) is entirely contained within the barrel, and wherein the barrel comprises an aperture (90) extending therethrough, wherein the aperture (90) engages the actuator button (64) when the needle hub (36) is in the distal position, and wherein the actuator button (64) is disengaged from the aperture (90) when the actuator arm (60) is resiliently deflected and the needle hub (36) is in the proximal position;

a spring (18) disposed in the barrel for propelling the needle hub (36) to the proximal position when the actuator arm (60) is deflected and the actuator button (64) is disengaged from the aperture (90); and

a septum (68) fitted within the distal end of the barrel, wherein the needle (34) extends through the septum (68) when the needle hub (36) is in the distal position, and wherein the septum (68) seals the barrel when the needle hub (36) is in the proximal position,

characterized in that

an absorbent sponge (128) is fitted in proximity to the septum (68) within the distal end (48) of the barrel (20), wherein the needle (34) extends through the sponge when the needle (34) is in the distal position, and wherein the sponge absorbs and retains any fluid on the outside of the needle as the needle is retracted into the proximal position.

2. The medical device of claim 1, further comprising an annular sleeve (130) rotatably disposed about a circumference of the proximal end (46) of the barrel (20), wherein the sleeve (130) is selectively rotatable between a first position and a second position, and wherein the sleeve (130) comprises a cover (134) and a slot (136).
3. The medical device of claim 2, wherein the slot (136) extends 180° around the circumference of the sleeve (130).
4. The medical device of claim 3, wherein the cover (134) obscures the aperture (90) and the actuator button (64) when the sleeve (130) is in the first position, and wherein the aperture (90) and the actuator button (64) are accessible through the slot (136) when the sleeve (130) is in the second position.
5. The medical device of claim 3, wherein the sleeve (130) prevents the needle assembly (16) from being inadvertently propelled into the proximal position when the sleeve (130) is in the first position, and wherein the sleeve (130) must be rotated to the second position before the actuator arm (60) can be deflected such that the actuator button (64) disengages the aperture (90) and the needle assembly (16) is propelled under the spring force into the proximal position.

6. The medical device of claim 1, wherein the actuator button (64) includes a first interlocking edge (66') and the aperture (90) includes a corresponding second interlocking edge (92').
7. The medical device of claim 6, wherein the first and second interlocking edges (66', 92') interlock when the needle hub (36) is in the distal position and the actuator button (64) engages the aperture (90).
8. The medical device of claim 7, wherein the spring (18) biases the first and second interlocking edges (66', 92') into interlocking engagement when the needle hub (36) is in the distal position and the actuator button (64) engages the aperture (90).
9. The medical device of claim 8, wherein the interlocking engagement of the interlocking edges (66', 92') prevents the needle assembly (16) from being inadvertently propelled into the proximal position, and wherein the needle assembly (16) must be moved distally against the spring bias until the interlocking edges (66', 92') disengage before the actuator arm (60) can be deflected such that the actuator button (64) disengages the aperture (90) and the needle assembly (16) is propelled under the spring force into the proximal position.
10. The medical device of claim 1, wherein a raised or textured surface of the actuator button (64) allows a user to frictionally grip the actuator button (64).