9. The single use delivery device of claim 1, wherein the primer element comprises a thumb press located at the proximal end of the container and the body of the container comprises a plurality of collapsible funnel-shaped, nonconcentrically-arranged side walls, wherein the diameters of the nonconcentrically-arranged walls decrease from the distal end to the proximal end of the liquid container.

10. The single use delivery device of claim 1, wherein the primer element is in the form of a series of two or more adjoining collapsible buttons in fluid communication.

11. The single use delivery device of claim 1, wherein the tip is releasably engageable to a vascular access device.

12. The single use delivery device of claim 1, wherein the vascular access device is a syringe, extension set, intravenous set, stop cock, tubing, high pressure extension tubing, or needleless connector.

13. The single use delivery device of claim 1, further comprising a pre-selected amount of fluid in the chamber.

14. The single use delivery device of claim 1, wherein the deformable container is made of thermoplastic elastomers.

15. A method of delivery fluid to a vascular access device comprising:

providing a single use delivery device having a manually deformable liquid container defining an inner chamber, the container having a distal end, a body, a proximal end, and an outlet on the distal end; a tip projecting from the outlet on the distal end of the container, the tip in fluid communication with the inner chamber of the container; and a primer element for removing one or more air bubbles from the chamber, said primer element being attached to and in fluid communication with the deformable container;

providing a vascular access device having a proximal end, a distal end, and a passageway therethrough, the proximal end having a female luer tip in fluid communication with the passageway;

INCORPORATED BY REFERENCE (RULE 20.6)

placing the distal end of the vascular access device in a blood vessel of a patient;

depressing the primer element to evacuate air within the chamber;

engaging the male tip of the container with the female tip of the vascular access device;

applying force to deform the container so that a solution located in the chamber flows through the one-way valve into the vascular access device; and

disengaging the male tip of the container from the female tip of the vascular access device.

16. A single use delivery device comprising:

a manually deformable liquid container defining an inner chamber, the container having a distal end, a proximal end, and an outlet on the distal end;

a tip projecting from the outlet on the distal end of the container, the tip in fluid communication with the inner chamber of the container;

a primer element for collapsing a portion of the deformable container for driving air out of said chamber by depressing the primer element, said primer element being attached to the deformable container; and

a one-way valve disposed between the tip and the deformable container, the one-way valve in fluid communication with the inner chamber of the container, said one-way valve permitting air or fluid evacuation from the inner chamber but preventing air or fluid intake into the inner chamber when the container is manually deformed and released.

17. The single use delivery device of claim 16, wherein the one-way valve prevents reflux of solution in the passageway.

18. The single use delivery device of claim 16, wherein the one-way valve is a duckbill valve, an umbrella valve, a ball-check valve, diaphragm check valve, swing check valve, stop-check valve, lift-check valve or a combination thereof.

19. The single use delivery device of claim 18, wherein the one-way valve is a duckbill valve.

20. The single use delivery device of claim 18, wherein the one-way valve is an umbrella valve.

INCORPORATED BY REFERENCE (RULE 20.6)

21. A method of delivery fluid to a vascular access device comprising:

providing a single use delivery device having a manually deformable liquid container defining an inner chamber, the container having a distal end, a proximal end, and an outlet on the distal end; a tip projecting from the outlet on the distal end of the container, the tip in fluid communication with the inner chamber of the container; a primer element for collapsing a portion of the deformable container for driving air out of said chamber by depressing the primer element, said primer element being attached to the deformable container; and a one-way valve disposed between the tip and the deformable container, the one-way valve in fluid communication with the inner chamber of the container, said one-way valve permitting air or fluid evacuation from the inner chamber but preventing air or fluid intake into the inner chamber when the container is manually deformed and released;

providing a vascular access device having a proximal end, a distal end, and a passageway therethrough, the proximal end having a female luer tip in fluid communication with the passageway;

placing the distal end of the vascular access device in a blood vessel of a patient;

depressing the primer element to evacuate air within the chamber;

engaging the male luer connector of the container with the female luer of the vascular access device;

applying force to deform the container so that a solution located in the chamber flows through the one-way valve into the vascular access device; and

disengaging the male luer connector of the container from the female luer of the vascular access device.

INCORPORATED BY REFERENCE (RULE 20.6)

9. The single use delivery device of claim 1, wherein the primer element comprises a thumb press located at the proximal end of the container and the body of the container comprises a plurality of collapsible funnel-shaped, nonconcentrically-arranged side walls, wherein the diameters of the nonconcentrically-arranged walls decrease from the distal end to the proximal end of the liquid container.

10. The single use delivery device of claim 1, wherein the primer element is in the form of a series of two or more adjoining collapsible buttons in fluid communication.

11. The single use delivery device of claim 1, wherein the tip is releasably engageable to a vascular access device.

12. The single use delivery device of claim 1, wherein the vascular access device is a syringe, extension set, intravenous set, stop cock, tubing, high pressure extension tubing, or needleless connector.

13. The single use delivery device of claim 1, further comprising a pre-selected amount of fluid in the chamber.

14. The single use delivery device of claim 1, wherein the deformable container is made of thermoplastic elastomers.

15. A single use delivery device comprising:

a manually deformable liquid container defining an inner chamber, the container having a distal end, a proximal end, and an outlet on the distal end;

a tip projecting from the outlet on the distal end of the container, the tip in fluid communication with the inner chamber of the container;

a primer element for collapsing a portion of the deformable container for driving air out of said chamber by depressing the primer element, said primer element being attached to the deformable container; and

a one-way valve disposed between the tip and the deformable container, the one-way valve in fluid communication with the inner chamber of the container, said one-way

valve permitting air or fluid evacuation from the inner chamber but preventing air or fluid intake into the inner chamber when the container is manually deformed and released.

16. The single use delivery device of claim 15, wherein the one-way valve prevents reflux of solution in the passageway.

17. The single use delivery device of claim 15, wherein the one-way valve is a duckbill valve, an umbrella valve, a ball-check valve, diaphragm check valve, swing check valve, stop-check valve, lift-check valve or a combination thereof.

18. The single use delivery device of claim 17, wherein the one-way valve is a duckbill valve.

19. The single use delivery device of claim 17, wherein the one-way valve is an umbrella valve.