CLAIMS

1. A medical device, comprising:

a housing;

a clothing article coupled to the housing and configured to be worn by a patient;

a proximal connector coupled to the housing;

a distal connector coupled to the housing;

a first conduit disposed within the housing and extending between the proximal connector and the distal connector;

a second conduit disposed within the housing and in fluid communication with the first conduit;

a fluid reservoir coupled to the second conduit, wherein the second conduit extends between the first conduit and the reservoir;

a pump disposed within the housing, wherein the pump is configured to pump fluid from the fluid reservoir through the second conduit, and into the first conduit; and

a one-way valve disposed within the second conduit, wherein the one-way valve is configured to prevent fluid from flowing beyond the one-way valve toward the fluid reservoir.

2. The medical device of claim 1, wherein the distal connector is configured to couple to a vascular access device, wherein the vascular access device comprises a peripheral intravenous catheter.
3. The medical device of claim 1, wherein the proximal connector comprises a needleless connector.
4. The medical device of claim 1, wherein the pump provides a fluid flow rate of 0.2 mL/hr.

5. The medical device of claim 1, wherein the pump provides a fluid flow rate greater than 0.2 mL/hr.

~~6. The medical device of claim 1, wherein the medical device further comprises a clothing article configured to be worn by a patient, wherein the housing is coupled to the clothing article.~~

~~7.~~6.The medical device of claim 1, wherein the clothing article comprises an arm band.

~~8.~~7.The medical device of claim 1, wherein the second conduit intersects the first conduit.

~~9. A method of preventing catheter occlusion, comprising:~~

~~coupling a vascular access device to a medical device, wherein the medical device comprises:~~

~~a housing;~~

~~a proximal connector coupled to the housing;~~

~~a distal connector coupled to the housing;~~

~~a first conduit disposed within the housing and extending between the proximal connector and the distal connector;~~

~~a second conduit disposed within the housing and in fluid communication with the first conduit;~~

~~a fluid reservoir coupled to the second conduit, wherein the second conduit extends between the first conduit and the reservoir;~~

~~a pump disposed within the housing, wherein the pump is configured to pump fluid from the fluid reservoir through the second conduit and into the first conduit; and~~

a one-way valve disposed within the second conduit, wherein the one-way valve is configured to prevent fluid from flowing beyond the one-way valve toward the fluid reservoir; and

activating the pump, wherein in response to activation of the pump, the pump provides fluid from the fluid reservoir to the first conduit and vascular access device at a flow rate of 0.2 mL/hr or more.

10. The method of claim 9, wherein the vascular access device comprises a peripheral intravenous catheter.

11. The method of claim 9, wherein the proximal connector comprises a needleless connector.

12. The method of claim 9, further comprising securing the medical device to a patient.

13. The method of claim 12, wherein the medical device is secured to the patient via a an arm band, wherein the housing is coupled to the arm band.

14. The method of claim 12, wherein the pump is activated to provide the fluid from the fluid reservoir to the first conduit and vascular access device when the medical device is secured to the patient, further comprising when the medical device is secured to the patient: coupling an IV line to the proximal connector, coupling a blood collection device to the proximal connector, or coupling a syringe to the proximal connector.

15. The method of claim 9, wherein the fluid reservoir is a first fluid reservoir, further comprising:

replacing the first fluid reservoir with a second fluid reservoir after deactivating the pump, comprising:

decoupling the first fluid reservoir from the second conduit;

coupling the second fluid reservoir to the second conduit, wherein the first fluid reservoir contains less fluid compared to the second fluid reservoir; and

activating the pump after the second fluid reservoir is coupled to the second conduit.

16. A method of aspirating blood from a patient, comprising:

coupling a vascular access device to a medical device, wherein the medical device comprises:

a housing;

a proximal connector coupled to the housing;

a distal connector coupled to the housing;

a first conduit disposed within the housing and extending between the proximal connector and the distal connector;

a second conduit disposed within the housing and in fluid communication with the first conduit;

a fluid reservoir coupled to the second conduit, wherein the second conduit extends between the first conduit and the reservoir;

a pump disposed within the housing, wherein the pump is configured to pump fluid from the fluid reservoir through the second conduit and into the first conduit; and

a one-way valve disposed within the second conduit, wherein the one-way valve is configured to prevent fluid from flowing beyond the one-way valve toward the fluid reservoir;

deactivating the pump;

coupling a blood collection device to the proximal connector after deactivating the pump; and

extracting a blood sample through the proximal connector into the blood collection device.

17. The method of claim 16, wherein the vascular access device comprises a peripheral intravenous catheter.

18. The method of claim 17, further comprising securing the medical device to a patient.

19. The method of claim 18, further comprising activating the pump when the medical device is secured to the patient, wherein in response to activation of the pump, the pump provides fluid from the fluid reservoir to the first conduit and vascular access device at a flow rate of 0.2 mL/hr or more.

20. The method of claim 19, further comprising: when the medical device is secured to the patient, coupling a syringe to the proximal connector and manually flushing the first conduit and the vascular access device via the syringe.