MLREMS Advanced Practice Paramedic Clinical Competency Sapphire IV Pump

At the end of this skills session, the Paramedic will be able to:

1. Identify the key components and functions of the Sapphire infusion pump
2. Demonstrate navigation through the software interface
    a. Power on/off
    b. Changing between dose and continuous modes
    c. Battery status
    d. Infusion pressure
    e. Changing channels
3. Demonstrate priming of a full infusion set using both pump guided and manual priming
4. Demonstrate priming of a half and glass infusion set pump guided and manual priming
5. Demonstrate pump set up for a primary infusion using the continuous mode
6. Demonstrate pump set up for continuous medication infusion utilizing the dose mode and a medication from the pump library
7. Demonstrate pump set up for continuous medication infusion utilizing the dose mode and a medication that is not in the pump library
8. Demonstrate medication titrations using the Sapphire IV pump
9. Troubleshoot and correct the following errors:
    a. Air/Up Occlusion
    b. Down Occlusion
    c. Door Open

Prime Full Infusion Set (via Pump)	Complete
Program pump for desired infusion	
Ensure that slide clamps are open on administration set	
“Spike” bag of IV fluid or medication	
Place administration set in pump. Be sure key and air sensor is seated. Close door.	
Ensure that the tubing is **NOT** connected to the patient	
Push the prime bolus key	
Press start and allow pump to prime tubing	
Once tubing has fully primed and is void of air, press stop. Connect it to the patient.	
Start infusion	
Prime Full Infusion Set (manual method)	
Program pump for desired infusion	

Ensure that slide clamps are open on administration set	
“Spike” bag of IV fluid or medication	
Ensure that the tubing is **NOT** connected to the patient	
Connect syringe to proximal injection port, clamp distal tubing and pull 10 ml of fluid to be infused into syringe	
Once syringe is full, clamp proximal tubing and flush remainder of tubing ensuring that all air has been removed	
Place administration set in pump. Be sure key and air sensor are seated. Close door.	
Start infusion	
Prime Half Infusion Set with 60 cc Syringe (via pump)	
Program pump for desired infusion	
Ensure that slide clamps are open on administration set	
Draw medication to be infused into the 60 mL syringe and attach to the proximal end of the infusion set	
Place administration set in pump. Be sure key and air sensor is seated. Close door.	
Ensure that the tubing is **NOT** connected to the patient	
Push the prime bolus key	
Press start and allow pump to prime tubing	
Once tubing has fully primed and is void of air, press stop. Connect it to the patient.	
Start infusion	
Prime Half Infusion Set with 60 cc Syringe (manual method)	
Program pump for desired infusion	
Ensure that side clamps are open on administration set	
Draw medication to be infused into the 60 mL syringe and attach to the proximal end of the infusion set	
Ensur that the tubing is **NOT** connected to the patient	
Depress syringe plunger and flush/prime the infusion set	
Ensure the infusion set is void of air	
Place administration set in pump. Be sure key and air sensor is seated. Close door.	
Connect it to the patient	
Start infusion	
Set Pump for Primary Infusion	
Power pump on	
When prompted to select the “Current Clinical Care Area” verify the correct formulary, click accept	
Select “New Infusion”	
Choose “General”, click “ok”	

Click mL, select weight based “No or Yes”	
Select mL/hr or mL/min	
Enter rate, volume to be infused, time	
Verify appropriate settings based off entered information	
Click “Start”	
Setup Pump for Continuous Infusion Using Library	
Power pump on	
When prompted to select the “Current Clinical Care Area” verify the correct formulary, click accept	
Click “New Infusion”	
Enter the first 1-3 letters of the infusion	
Selected the appropriate concentration	
Enter dose and volume to be infused. Verify the time based off presumed rate.	
Verify appropriate settings based off entered information	
Press start	
Verify the solution flow from the primary container and that the screen displays the desired dose/rate. Confirm the green light is flashing next to the desired channel.	
To titrate the medication during infusion: ■ Ensure the desired channel is selected by pressing the channel button ■ Use the numerical key pad to enter the new desired dose ■ Press Start/OK	
To provide a patient bolus of the medication: ■ Press the Prime/Bolus Key ■ Enter the Volume of the desired bolus ■ Press Start/OK	
Setup Pump for Continuous Infusion Using Non-Library Medication	
Power pump on	
When prompted to select the “Current Clinical Care Area” verify “IFT”, click accept	
Click “Choose general”	
Select mL or dose calculation	
Select the concentration units	
Enter the drug amount within the solution	
Enter the diluent volume	
Verify the listed concentration	
Select if this is a weight based infusion or not	
Select the dose rate units	
Enter the dose rate and volume to be infused, verify time	

Verify concentrations and timing based off above listed values	
Press Start/OK to initiate the medication	
Verify the solution flow from the primary container and that the screen displays the desired dose/rate. Confirm the green light is flashing next to the desired channel	
To titrate the medication during infusion: ■ Use the numerical key pad to enter the new desired dose ■ Press Start/OK	
To provide a patient bolus of the medication: ■ Press the Prime/Bolus key ■ Enter the **Volume** of the desired bolus ■ Press Start/OK	
Troubleshooting Pump for Errors and Alarms	
Level 1, High Priority Alarm	
Meaning: Alarm requiring immediate attention (internal error, critical low battery) **Actions:** ■ Plug in pump to available wall power ■ Verify concentration and infusion ■ Begin infusion with other available IV pump if infusion is life sustaining	
Level 2, High Priority Alarm	
Meaning: Infusion complete, air in line, downstream occlusion, flow error, occlusion, upstream occlusion, low battery **Actions:** ■ Check the tubing between the container and the pump for a closed regulating clamp, a closed vent (with unvented container), kinked tubing, empty syringe, or any restriction to flow ■ Clear the occlusion ■ Press **Start/Stop** to resume infusion ■ Verify that the fluid is flowing in the drip chamber	
Level 3, Low Priority Alarm	
Meaning: Battery reminder, annual maintenance, door open, temperature out of range, key stuck **Actions:** ■ Verify door is closed ■ If pump alarms for annual maintenance due, consider utilization fo additional IV pump if available	

Paramedic Name:

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Evaluator Name:

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Evaluator Signature:

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Date:_____