

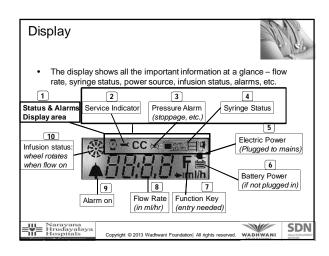
Essentials for Syringe Pump Usage

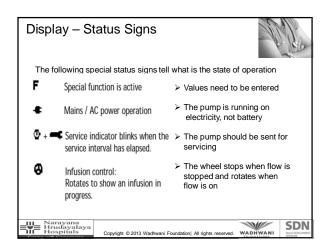
- · Read "Instructions for Use" or manual before starting
- Use only under supervision by specially trained staff
- Before use, look at the device for possible damage or problems
- Ensure the unit is properly positioned and
 - Ensure that infusion line is not twisted
- Before and during use, always check for sound and visual alarms

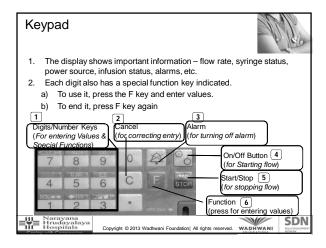




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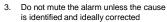




Alarm - Start Check and Alarms



- When the syringe pump is turned on, automatic self test is done to check for proper operation.
 - All display elements will appear for around 2 seconds
 - The rate will be displayed as "111.1 222.2 555.5", etc.
 - NOTE: DO NOT use the pump if the service indicator is constantly on
- 2. During an alarm, the 🔈 sign, AAAA and the symbol for the problem will show on the display





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Common Errors & Correction -Device Failure



Symbol	Cause	Correction
•	Unit defective. Internal device failure.	Press and hold ON/OFF key for at least 3 seconds until the alarm symbol in the display is gone. Then release key and switch on device again. If unit is defective alarm will start again, take device to service team.

Device failure is the most critical error. If this cannot be corrected by restarting the syringe pump, call the service team!





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Common Errors & Correction Plunger, Battery, Blockage



Symbol	Cause	Correction
Ħ	Top of plunger is improperly positioned in syringe pressure plate	Ensure top of plunger is securely positioned. Check if the stop cock is open.
Ū	Battery flat, battery near flat warning before 30 min	Connect to main or replace batteries
þó	Pressure alarm e.g. because of occlusion or blocks. Fluid unable to be infused.	Check for twists in tubing, IV patency, and filter patency. Increase occlusion pressure if needed. Check if syringe is empty.

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Common Errors & Correction Empty Syringe, Lock not Engaged, Syringe Holder Symbol Cause Correction Prepare to end infusion or Syringe near empty. Alarm will sound 3 min before begin next infusion. syringe gets empty. Locking lever at the drive head has not clicked into Ensure plunger head is securely positioned in the ΒŪ syringe pressure plate and the locking lever has place engaged. Syringe holder not closed Close syringe holder Ü Narayana Hrudayalaya Hospitals SDN

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Servicing a Defective Pump: Report Complaint to Biomedical Team

- In case of machine breakdown the nurse should get in touch with the service department.
- Complaint details should be clearly specified to service team:
 - 1. Name of the equipment
 - 2. Model number/serial number of the pump (CEID # as shown)
 - 3. Critical /Non-critical
 - 4. Brief description of the problem
 - 5. Your name and call back number/s
 - 6. Your department
 - Name of the person you logged the complaint with



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Safety - Handling and Transport

- Always use only the handle to carry the syringe pump.
- Never attach more than 4 pumps together.
- To lock into place, place one device on top of the other. Push connecting rod of top pump down into the slot of the pump below until it clicks into place.
- To lock, turn the "key" until it is vertical. To disconnect, turn the "key" until it is horizontal. Push the white key in and slide





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Safety - Handling and Transport



- When attaching to pole, use a proper pole clamp
 - Attach the pump from above, clicking it into place. To release, press the black button and lift the pump from the clamp. Attach each device separately to pole.



- Ensure not more than 3-4 syringe pumps are attached to a single pole

 The setup is unstable and may fall

 - The drugs may leak from the pump above



Do NOT attach to pole with IV drip hanging from it

To avoid dripping of fluid onto the pump





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Safety - Electric Hazard



- Ensure the plugs are firmly in place without any loose connections
- Do not leave the plug ends on the floor, especially if it is wet
- Protect the device from moisture to prevent electric shock, etc.
- Ensure electric cord is rolled and kept when not in use





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Safety - Patient and Clinical



- · Connect to patient only after switching on the device
- · Select syringe/catheter suitable for use with intended application
- Position the infusion line free of twists
- Change disposables after 24 hours
- · Possible explosion hazard if used in presence of flammable anaesthetics
- · Compare displayed value with entered value. Stop if they are different
- Do not use the device when service indicator is displayed permanently









Maintenance and Care - Cleaning of Syringe Pump



- · The pump should be kept clean, dry and sterile all the time
- · Clean the pump regularly using isopropyl alcohol, before and after use
- Do not clean the display and keypad area using wet gauze. Use only dry gauze for them
- Do not wet or wash the pump, especially the electric plugs/sockets



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Maintenance and Care - Dos and Don'ts



- Dos:
 - Regular cleaning
 - Pre-checking of syringe pump
 - Pay attention to alerts
 - Keep power cord dry and off the ground
 - Carry using the handle
 - Avoid rough handling
- Don'ts:
 - Hang IV fluid on the same stand
 - Stack more than 3-4 pumps in a single
 - Use water to clean pump





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Activity 1 - Clean the Syringe Pump



- Activity Time (suggested): 15 MINUTES
- Items Needed: Syringe pumps and cleaning sets (gauze and isopropyl alcohol)
- **Group Formation:** Divide yourselves into groups, depending upon number of syringe pumps and cleaning sets (gauze and isopropyl alcohol) available.
 - Nominate a leader who will direct the activity
- In turn, 1 person should be the demonstrator and the others observers.
- The demonstrator should demonstrate how to clean the syringe pump. The observers should point out things done correctly/incorrectly.
- Another new volunteer should come up and demonstrate it correctly a secon

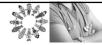






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Activity 2 - Questions from the Manual



- Activity Time (suggested): 15 MINUTES
- Items Needed: Syringe pump user manuals
- Group Formation: Keep the same groups as in the earlier exercise.
- Give 1 copy of the user manual to each group.
- Pass the user manual around each person in the group:
 - Whoever has the manual can read from any page and ask the rest of the group a question from the manual
 - The others should answer till they get it right
- Continue till all students ask a question.



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Activity 2 - Questions from the Manual

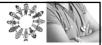


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Activity 3 - Visit to the ICU

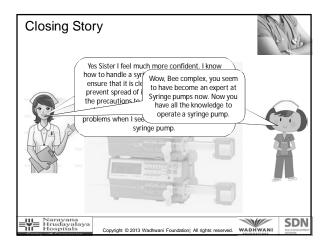


- Activity Time (suggested): 30 MINUTES
- · Items Needed: Nil
- Take a tour of the ICU.
- Observe at least 3 good practices and 1 bad practice regarding Syringe Pumps, while on the floor.
- Return and discuss what you saw in the ICU.

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Credits and References



We would sincerely like to thank the following entities for the resources and references:

• B. Braun Medical Ltd.

For further reference please check:

• www.bbraun.co.in

