Smiths Medical Publications

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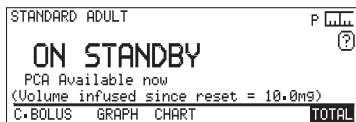Watford, Herts, UK, WD24 4LG
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Patient Handset and PCA Bolus

When a PCA bolus is available, the patient can administer a dose as required, by pressing the button on the handset:

1. The patient's handset will show a green light and the pump displays a screen like this:

```
STANDARD ADULT                    P ▐▅▅▅
                                       ⑦
  ON STANDBY
 PCA Available now
(Volume infused since reset = 10.0mg)
C.BOLUS   GRAPH  CHART          TOTAL
```

2. The patient presses the button on the handset to deliver the bolus. The screen shows the amount being delivered and the Infusion LED flashes more quickly.

3. When the PCA bolus is complete:

- The pump returns to the **ON STANDBY** screen, showing the lockout period remaining: the number of minutes until the next PCA dose is available.
- The handset light goes out for the lockout period.
- The Infusion LED flashes very slowly.

Infusion LED

- 🟢 **Green flashing**
  Slow-Pump is on standby
  Fast-Pump is infusing

- 🟢 **Green steady**
  Infusion is suspended

- 🟠 **Orange flashing/steady**
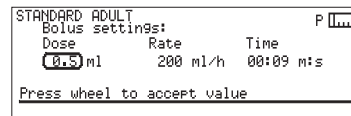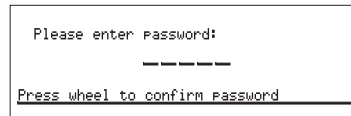 Syringe is nearly empty

Alarm LED

- 🔴 **Red flashing (with alarm)**
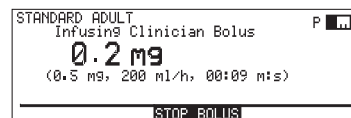 Pump has stopped
  Read the screen message
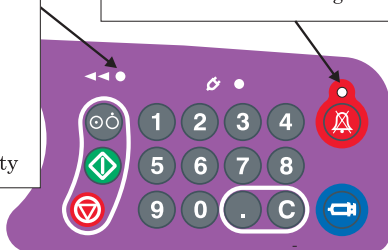
Administering a Clinician Bolus

If the Clinician Bolus is enabled on your pump, you need to use the procedure below to administer a bolus.

1. Highlight the **C. BOLUS** hotspot and press the Command wheel.

2. Enter the password, then press the Command wheel to accept.

```
Please enter password:
          _ _ _ _ _

Press wheel to confirm password
```

3. Use the keypad to enter the bolus dose that you want to deliver.

```
STANDARD ADULT                    P ▐▅▅▅
   Bolus settings:
   Dose        Rate       Time
  (0.5)ml     200 ml/h   00:09 m:s

Press wheel to accept value
```

4. When you enter the dose, the duration of the bolus is calculated and displayed, based on the bolus rate currently displayed. Press the Command wheel to accept these values.

5. Press and hold the Command wheel for one second, to start the bolus delivery.

```
STANDARD ADULT                    P ▐▅▅
   Infusing Clinician Bolus
       0.2 mg
   (0.5 mg, 200 ml/h, 00:09 m:s)

                      STOP BOLUS
```

6. The delivery will stop automatically once the requested dose has been completed.
Press the Command wheel during bolus delivery to **STOP BOLUS** before it is complete. At the end of the bolus, the **STANDBY** screen is displayed.

Switching on and Loading a syringe

1. Connect the pump to the AC Mains supply.

2. Open the cover, switch on the pump with the grey on/off key 🔵 and wait for the self test to complete.

3. Open the barrel clamp and position the syringe in the trough with the ear in the slot, as shown here:

Syringe position
Syringe placed in trough
Syringe ear in slot
GM151-4310GB-A

4. Close the barrel clamp.

5. Press the Command wheel to confirm the syringe brand and size.

6. Press and hold the blue Load key 🔵 while the screen displays **SYRINGE LOADING.**
Release when the screen displays **SYRINGE LOADED**.
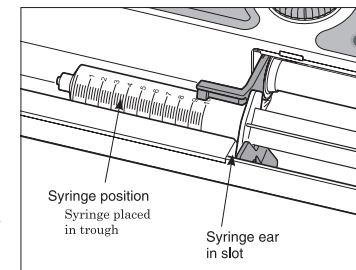
Programming using a Protocol

When the syringe is loaded, a menu shows the available protocols. For USER PROGRAMMED, see over.

1. Select a protocol and press the Command wheel, then check the PCA settings on the review screen:

```
STANDARD ADULT
 Drug Concentration:     1.0 mg/ml
 PCA Bolus Dose:         1.0 mg
 PCA Dose Time:          STAT
 Lockout Period:         00:05 hh:mm
 CONFIRM
Select item: CONFIRM: or press Stop
```

2. Highlight **CONFIRM** and press the Command wheel.

3. Highlight **TOTAL** and press the Command wheel to display the totaliser. To set to zero, highlight **RESET** and press the Command wheel.

4. Close and lock the cover. Press the green Start key.
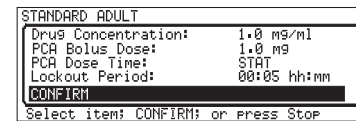
USER PROGRAMMED protocol

If the USER PROGRAMMED option appears on the menu, you can program a PCA infusion for a particular patient.

1. Switch on and load the syringe. On the Protocol menu, choose **USER PROGRAMMED.**

2. The first PCA program step is displayed, for example: Enter the value and press the Command wheel to move on to the next step.

```
User Programmed              P ▭
    Drug Concentration:
   1.00 mg/ml

Press wheel to accept value
```
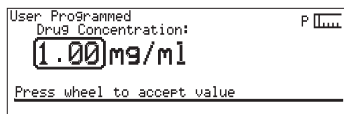
The PCA program steps may include:

- Dose units
- Drug concentration units
- Drug concentration
- Loading dose
- PCA Bolus dose
- PCA Dose time
- Lockout period
- Dose limit period
- Dose limit/Demands
- Background infusion

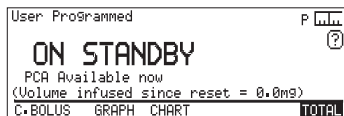**3.** When complete, check all the PCA settings on the review screens. Highlight **CONFIRM** and press the Command wheel.

4. Highlight **TOTAL** and press the Command wheel to display the totaliser. To set to zero, highlight **RESET** and press the Command wheel.

The pump is now ready to infuse. Ensure that you have purged all air from the line *BEFORE* connecting to the patient.

Starting the PCA infusion

**Start the infusion after all parameters have been checked.**

1. Close and lock the cover.

2. Press the green Start key.

```
User Programmed              P ▭
    ON STANDBY               ⑦
   PCA Available now
(Volume infused since reset = 0.0mg)
C.BOLUS  GRAPH  CHART      TOTAL
```

Check/change the Occlusion alarm setting

You can change the Occlusion Alarm Setting before starting the infusion, or if you suspend the infusion then unlock and open the cover.

1. The Occlusion Alarm icon shows the current setting, on the top right hand corner of the screen.

P ▭

2. Highlight the icon and press the Command wheel to show a menu of the available levels:

```
Please Select Occlusion Level
LEVEL 1 ( 180 mmHg)
LEVEL 2 ( 300 mmHg)
LEVEL 3 ( 500 mmHg)
LEVEL 4 ( 750 mmHg)
LEVEL 5 (1250 mmHg)
Current pressure reading: 2.2
```

3. Choose the right level for the infusion.

4. Press the Command wheel to confirm the level and leave the Occlusion level screen.
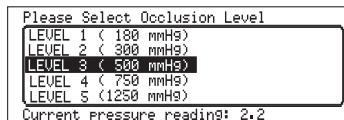
Purging the line

Carry out this procedure *BEFORE* pressing the green Start key if you have not manually purged your line.

1. Highlight and select the **PURGE** hotspot.

2. Ensure that the line is disconnected from the patient.

```
                             P ▭
Ensure that the line is       ⑦
disconnected from the patient

Press and hold wheel to purge line
         PURGE            RETURN
```

3. Press and hold the Command wheel to purge.

4. When the purge is completed, release the Command wheel. You can now start the infusion.
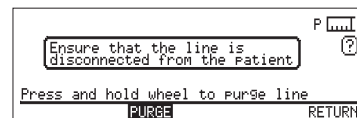
Suspending and stopping the infusion

You can *suspend* (pause) the infusion, then restart it, or you can stop the infusion.

To pause the infusion: briefly press the red Stop key. 🛑

Once suspended, the infusion can only be restarted if you have the key to the lockable cover.

1. Unlock and open the cover, then close and relock it.

2. Press the green Start key. ⬦

To stop the pump and end the infusion completely: press and hold the red Stop key 🛑 for approximately two seconds, until you hear a beep.

To switch off the pump when the infusion is ended, press and hold the grey On/off key. ⊙⊙

Changing a syringe

When you change a syringe during an infusion, you must always use the same brand and size as the first syringe.

1. Suspend the infusion, unlock and open the cover.

2. Lift the barrel clamp and follow the on-screen prompts to unload the syringe.

3. Place new syringe in the trough, ensuring the ear is in the syringe ear slot and close the barrel clamp. Press the Command wheel to confirm the syringe brand.

4. Press and hold the blue Load key while the screen displays **SYRINGE LOADING**. Release when the screen displays **SYRINGE LOADED**.

5. Close and lock the cover then press the green Start key. ⬦