Medtronic
Engineering the extraordinary

Catheter test procedure with the CT900 programming tablet

SynchroMed™II and tablet

Catheter test procedure

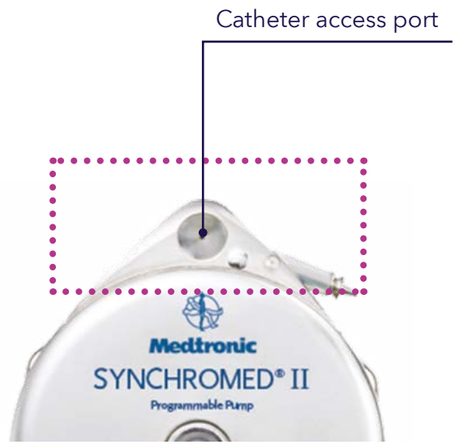
Note: If it is not evident that the escalation of symptoms is due to a catheter issue or tolerance to medication, it may be desirable to check the patient's response to the medication by programming a therapeutic bolus.

Catheter contrast test

Please read the following steps carefully before beginning the procedure.

1. Use a **specific access kit** for the catheter access port (ref. 8540 for the SynchroMed™ II pump). Consult the operating manual for any additional information.

2. Prepare a 10 ml syringe filled with a solution of 5 ml radio-opaque contrast without preservative for intraspinal use.



Section of the pump and catheter involved in the lateral port procedure

3. Aspirate approximately 1 ml to 2 ml via the catheter access port to empty the access port and the catheter of the medication they contain.

If the catheter is **folded/completely blocked**, aspirating the contents of the catheter may become impossible. If the catheter is **partially blocked**, aspiration may be difficult. If the medication cannot be aspirated, carefully consider the **risk of overdose associated with continuing the procedure**.

⚠ **Only use contrast which is indicated** for injection in the intraspinal space. The use of an inappropriate product may result in undesirable effects, including but not limited to extreme pain, cramps, seizures and death.

⚠ Before injecting the contrast or any other liquid into the access port, **aspirate approximately 1 ml to 2 ml of the catheter contents** (unless contraindicated). A significant quantity of medication may be present in the catheter access port and the catheter. **If this quantity of medication is not removed during injection via the access port, it may cause a clinically significant or fatal overdose.**

4. Inject 2 to 5 ml of radio-opaque solution in the catheter access port, using the 10 ml syringe.

5. Examine the catheter along its entire length, as well as all the connections.
   - The radio-opaque solute can be recognized at the end or the site of the disconnection or the leak. The solution will make the catheter appear opaque on X-ray.
   - For intrathecal catheters, the contrast will rapidly diffuse towards the cerebrospinal fluid. Raising the upper part of the radiology table improves the caudal diffusion of the solution.
   - For epidural catheters, the contrast diffuses more gently and stays localized.
   - If the catheter is folded/completely blocked, the injection of contrast towards the catheter access port may be impossible. If the catheter is partially blocked, injection may be difficult. Be aware that the injection of contrast into a partially blocked catheter risks driving a medication bolus towards the fold or the blockage, if the catheter has not been aspirated beforehand.

6. Drive the contrast from the catheter access port by injecting 5 ml of sterile physiological serum.

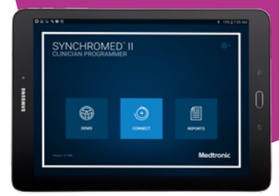
7. If the catheter is not obstructed, is intact and well positioned, program the desired dosage, preceded by a priming bolus corresponding to the calculated volume of fluid in the catheter, from the pump connector to the end of the catheter. The steps for programming a priming bolus are described on the following page.

8. If the catheter is folded, disconnected or loose, it must be surgically adjusted as soon as possible. If the catheter is blocked, program the pump at a minimum flow rate until the catheter has been adjusted.

9. If the catheter has migrated, surgical adjustment is necessary and must be performed as soon as possible.

Consult the information related to the contrast in the Catheter Access Port Kits manual, to be used with Medtronic implantable pumps, p. 28.

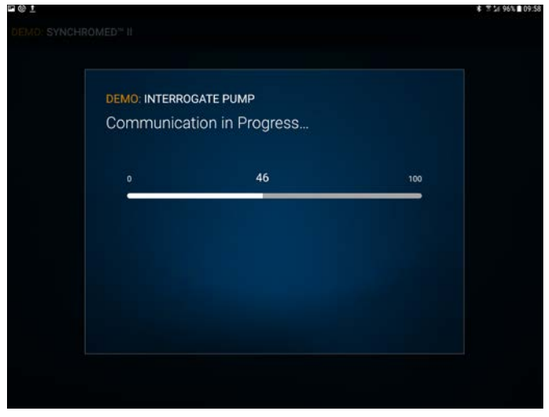
Catheter test procedure



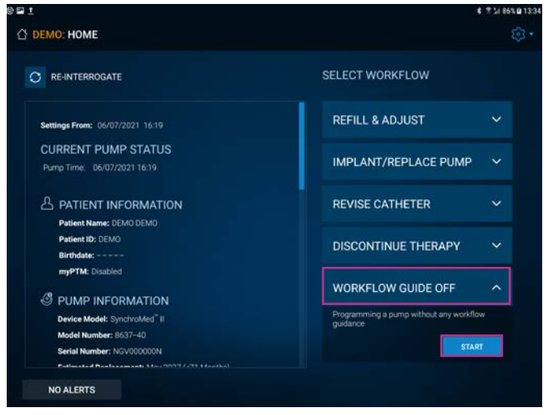
This document is aimed at describing the different steps enabling the programming of a priming bolus after a catheter test for a SynchroMed™ II pump by means of opacification.

Before creating a priming bolus after aspirating a catheter, it is essential to ensure that the catheter model and lengths set in the SynchroMed™ II pump are correct. Otherwise, there is a risk of withdrawal or overdose which must be planned for.

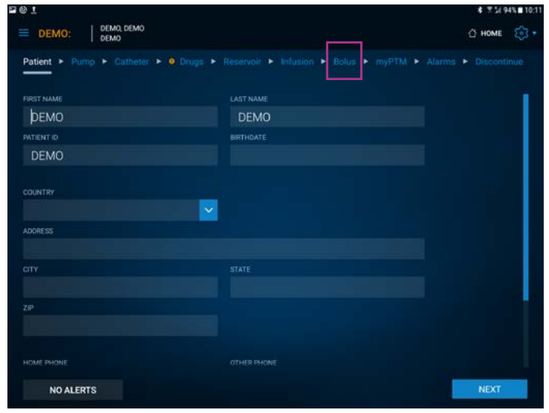
1 Open the SynchroMed™ II application on the tablet. Place the communicator above the pump and select **CONNECT**. The programmer communicates with the pump.

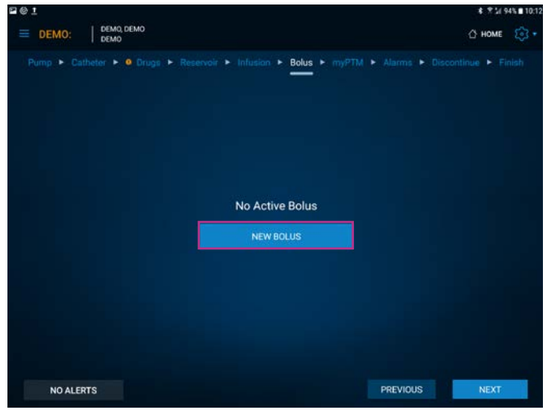


2 From the welcome screen, select **WORKFLOW GUIDE OFF**, then click on **START**.

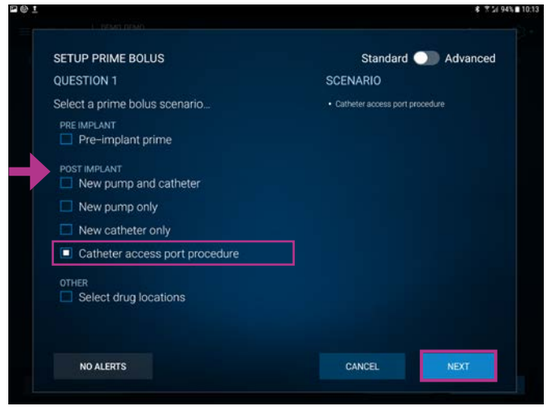


3 At the top of the screen, select **BOLUS** then click on **NEW BOLUS** and select **PRIMING BOLUS**.



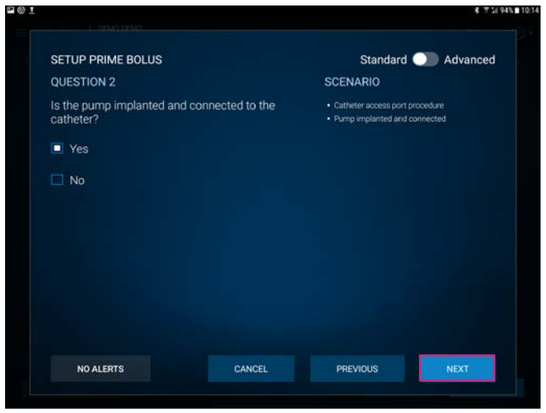


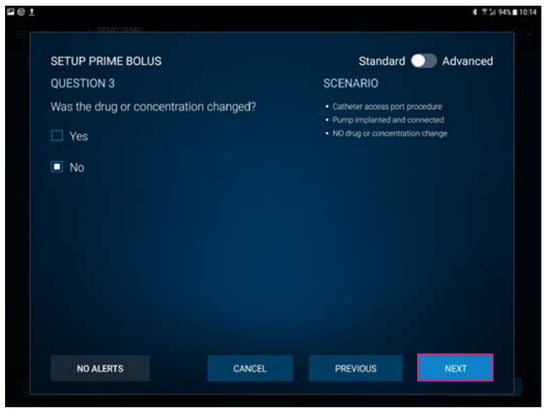
4 In the "**AFTER IMPLANTATION**" section, select **PROCEDURE INVOLVING CATHETER ACCESS PORT** and click on **NEXT**.

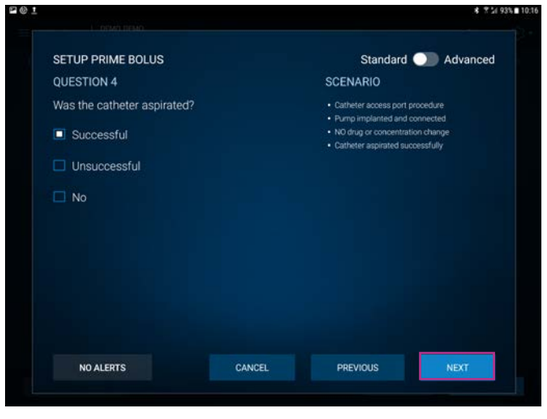


Catheter test procedure
(cont'd)

5 Answer the following questions:

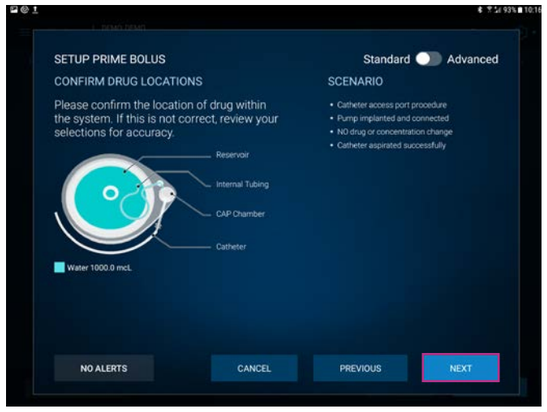




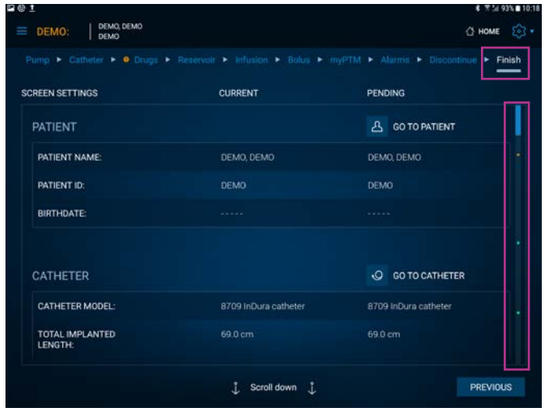


NB - if the catheter could not be aspirated, there is no need to program a priming bolus as there is a risk of overdose.

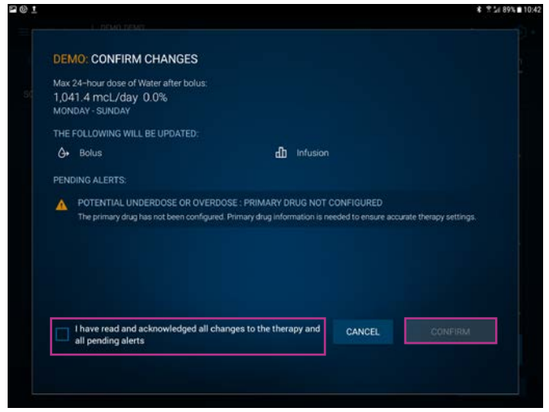
6 Confirm the location of the medication on the diagram, click on **NEXT** and **CONFIRM**.



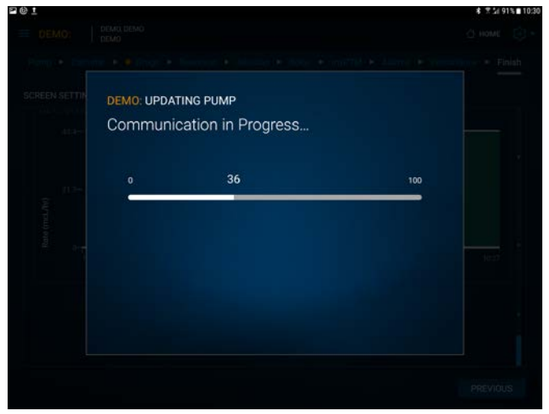
7 At the top of the screen, select **FINISH**, check the changes made by using the **SCROLL BAR**, and click on **UPDATE**.



8 Check the conditions and click on **CONFIRM**.

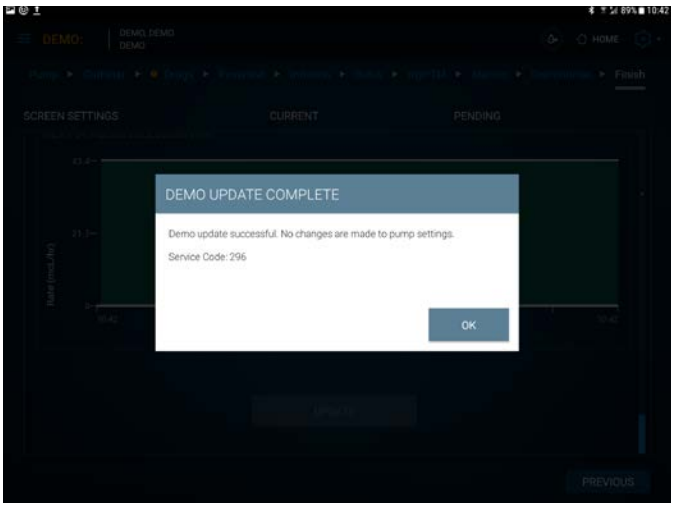


9 Place the communicator above the pump so that the updates are transmitted to the pump.

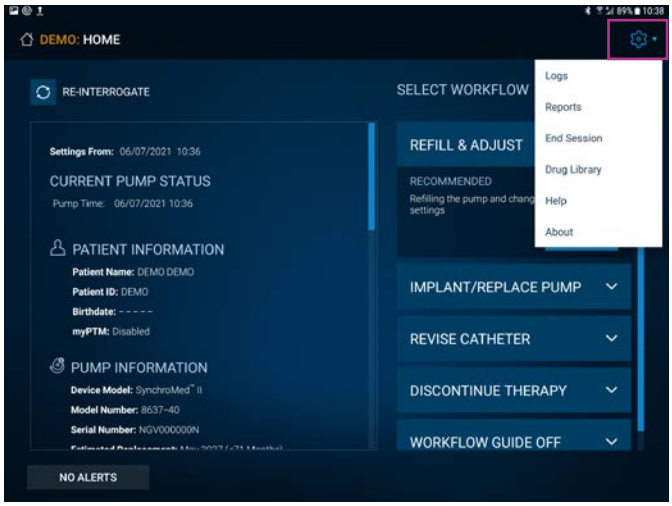


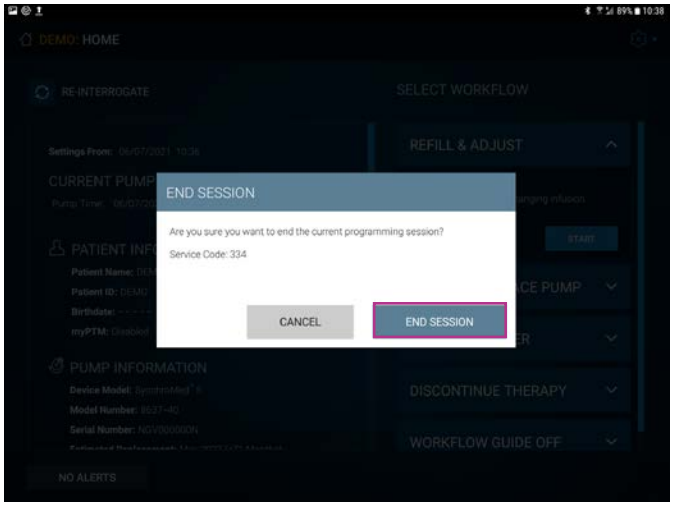
Catheter test procedure
(cont'd)

10 The screen below indicates that the changes have already been recorded by the pump.



11 Close the application by clicking on ⚙ then **END OF SESSION**.





When the priming bolus is finished, the pump returns to the programmed infusion modes.

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See the device manual for detailed information regarding the instructions for use, the implant procedure, indications, contraindications, warnings, precautions, and potential adverse events. For further information, contact your local Medtronic representative and/or consult the Medtronic website at www.medtronic.eu.
For applicable products, consult instructions for use on www.medtronic.com/manuals.
Manuals can be viewed using a current version of any major internet browser.
For best results, use Adobe Acrobat® Reader with the browser.

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