Gloucestershire Hospitals NHS Foundation Trust

Patient Information

Going home with a CADD pump

Introduction

You have been given this information leaflet because you are due to receive your chemotherapy treatment at home via a Computerised Ambulatory Delivery Device (CADD) pump. The leaflet explains what a CADD pump is, how it works and how to use it.

Please read the information carefully and keep it in a safe place. If you have further questions or would like more information, please speak to your Systemic Anti-Cancer Therapy (SACT) team.

What is a CADD pump?

A CADD pump is a small infusion device which is linked to your central line. It will allow you to receive high dose chemotherapy, medications and other fluids safely at home. The pump can deliver chemotherapy continuously, or as required at a certain time.

Before you are discharged from hospital your SACT nurse will explain how to use the pump. They will make sure that you understand how it works and that you feel confident in using the pump. Your partner or carer should also be familiar with how the pump works.

How does a CADD pump work?

The CADD pump is attached to an infusion bag or 'reservoir' (also known as a cassette) which contains chemotherapy, medication or fluids as needed. This is attached to your central line and will be placed into a bag which you can wear or place near to you, as required. You should always make sure that the **bag is upright** if it is placed on the floor, table or chair.

Reference No.
GHPI1854_07_24
Department
Oncology
Review due
July 2027

Patient Information

Your SACT nurse will programme the CADD pump to deliver the chemotherapy at the exact dose your doctor has prescribed. The keypad will then be locked so that the programming cannot be changed accidentally.

The CADD pump will have a fully charged battery before you take it home. When the batteries need changing you will see an indicator on the screen. Instructions on how to change the batteries are given later on in this leaflet.

If you have any problems with your CADD pump

Please call the Acute Haematology and Oncology Unit (AHOU)) 24-hour Emergency Helpline on **0300 422 3444.** You may need to return to the hospital to have the pump checked or replaced.

Day-to-day life with your CADD pump

Following the advice in this leaflet will help make sure that your CADD pump stays in good working order to deliver your treatment safely.

Bathing

When you have a bath or a shower, put the CADD pump upright on a stool or chair near to you. **Water can damage the CADD pump so make sure that it does not get wet**.

Sleeping

When you go to sleep, put the CADD pump on a chair next to your bed. Make sure that the pump and bag holding the fluid are upright. This will allow the treatment to continue uninterrupted. If the bag is not upright, an air bubble or kink in the line can occur. This will stop the CADD pump from working.

Exercise

You should not play any contact sports (such as rugby or football) while you are using the CADD pump. This is because there is a risk that you could hurt yourself or damage the pump.

Patient Information

Small children and pets

The CADD pump should not be dropped or hit. Make sure the CADD pump is always out of the reach of small children and pets. You must also make sure that your central line does not get pulled or damaged.

How to check that your CADD pump is working correctly

There are some signs that you can look out for to make sure that your CADD pump is working.

Sounds

If your treatment has been programmed to run continuously, you should hear an intermittent whirring sound. This means it is working correctly.

If your chemotherapy or fluid has been programmed to start later in the day, for example 9:00 pm, you will not hear the whirring sound until this time. The CADD pump has a clock so it will start on time.

Front view of the CADD pump

Patient Information

Indicator lights

The green and amber indicator lights may flash at the same time. This means that the pump is running but something will need to be looked at soon. This could be:

- a low battery
- a low reservoir volume (meaning the treatment bag will soon be empty)

Green light

The green light flashes when the pump is running and delivering medication.

Amber light

When the amber light is flashing, it is because one or more of the following apply:

- the pump has stopped
- the alarm sounds
- the battery is low
- the reservoir volume is low (the treatment bag is empty)

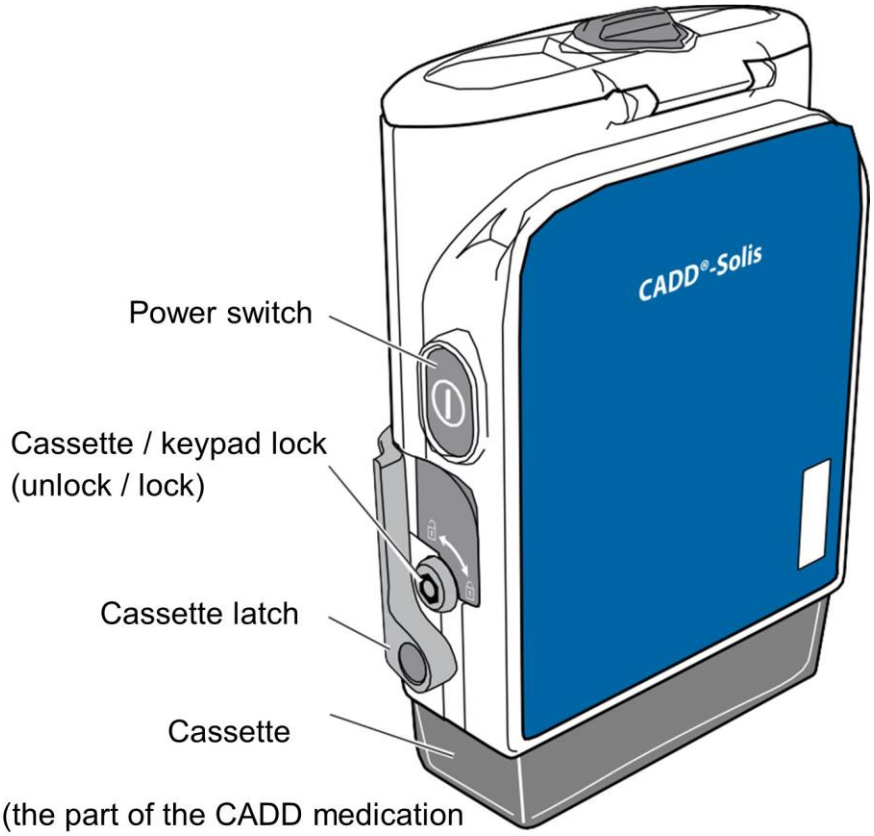
When the amber light is continuous, it means that the pump is not working. You should call the AHOU 24-hour Emergency Helpline for advice.

Display

The display shows information and messages but will turn itself off to save power. You can press any key on the keypad to turn the display on.

Patient Information

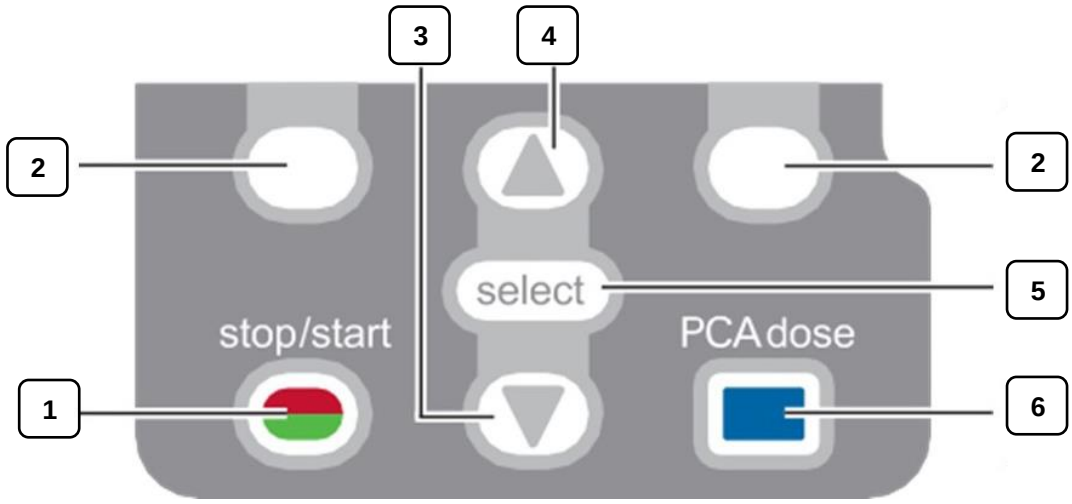
Rear view of the CADD pump



(the part of the CADD medication cassette reservoir or CADD administration set that attaches to the pump)

Patient Information

Keypad



1. Starts and stops the pump delivery
2. “Soft keys” let you answer a question on the pump’s display. They also let you move through some of the pump screens
3. Let’s you scroll down menus or decrease values
4. Let’s you scroll up menus or increase values
5. Allows you to select a menu item
6. **This key is not used for your therapy**

The keys on the keypad may beep when they are pressed - this is normal.

Replacing the batteries

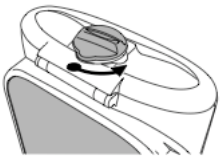
You should change the CADD pump batteries as soon as possible when the screen displays:

- battery low
- battery depleted

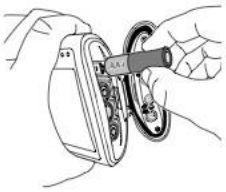
You should always replace old batteries with new ones. **It is important to keep a stock of AA batteries in case they need replacing.** Do not mix new and used batteries as this may affect the low battery alarm times.

Patient Information

To install batteries:



1. Make sure that the pump is stopped and the power turned off at the socket.
2. Turn the knob on the battery door to the left (anticlockwise) to open the battery door.
3. Hold the pump at an angle to remove the old batteries.



4. Insert 4 new AA batteries (matching the + and – markings on the batteries with the markings on the pump).
5. Close the battery door and turn the knob on the battery door to the right (clockwise). This will lock the battery door.
6. Press the power button to turn the pump on. The display will ask if you want to start a new patient. Select ‘No’. Press ‘Start pump’.

Remember to dispose of old batteries safely. There are lots of recycling points locally.

If you have any questions or concerns, call the AHOU 24-hour Emergency Helpline for advice.

Using a CADD pump

Visual checks

We recommend that you check your CADD pump once a day.

You should be able to see the amount of liquid in the bag or cassette gradually go down. This is a visual check you can do to make sure the CADD pump is working.

You can also look at the top left-hand corner of the CADD pump screen. This displays the amount of fluid that still needs to be given. If you have an intermittent infusion, the number will only go down at the time the infusion is programmed to start.

In the top right-hand corner of the CADD pump screen, a message should be displayed. If the message is green and says ‘Running’ then the pump is working normally. If the message is red and says ‘Stopped’ then the pump is not running. If you are having an intermittent infusion, the pump will display a countdown telling you when your infusion will start (for example, ‘Delayed start – infusion will start in 6 hours 30 minutes’).

Patient Information

CADD pump alerts

Before you leave hospital, your SACT nurse will show you what to do if your CADD pump alarm sounds.

If your CADD pump is sounding an alarm, please look at the display screen. This will tell you what the problem is. There are two alarms that we expect to happen:

Reservoir low volume
This notifies you that your infusion is almost finished. You should press the 'acknowledge' button. The pump will continue to deliver the last of the infusion.

Reservoir volume is zero
This alarm will sound to advise you that your infusion has been completed. You should turn the CADD pump off completely using the power switch on the right-hand side of the pump. The screen will display the message 'Power down?'. You should select 'Yes'.

You should then come to the hospital immediately for the next steps in your treatment which the healthcare team would have already discussed with you.

Sometimes other messages or alarms can happen. The pump display will provide step-by-step instructions for you to follow. Whatever alarm or message is displayed, remember that you should not disconnect yourself from the infusion line.

The most common alarms that can occur are:

Downstream occlusion. Clear occlusion between pump and patient
If this message appears on your pump, press 'Silence'. Then press the 'Help' button and follow the instructions. The screen may ask you to adjust the position of your arm, check that there are no kinks in the line and that all of the clamps are open.

Upstream occlusion
If this message appears, press the 'Silence' button and contact the AHOU 24-hour Emergency Helpline for further support.

Air in-line detected
If this message appears, immediately clamp the line. **Do not follow the instruction to prime the tubing.**

Call the AHOU 24-hour Emergency Helpline immediately. Unfortunately, air in the line cannot be fixed at home. You will need to come to the hospital so that a SACT nurse can assess and resolve the problem.

If you are not sure about any of the alarms or alerts, contact the AHOU 24-hour Emergency Helpline for advice.

Cleaning the CADD pump

While you are using a CADD pump, you should not:

- put the pump in cleaning fluid or water
- allow solution to:
  - soak into the pump
  - build up on the keypad
  - enter the battery compartment, USB port, remote dose cord jack or power jack areas
- let moisture build up inside the pump
- clean the pump (the nurse will do this in between patients)

What should I do if my chemotherapy infusion spills or leaks?

It is possible to spill chemotherapy infusions. This can happen if the connection between the pump and your line comes loose, or if the line becomes damaged while the infusion is running.

You will have been given a spillage kit and instructions on how to use it. Your kit will include:

- gloves
- absorbent pads
- a protective gown
- 2 x orange waste bags

You should keep the kit nearby when you have your CADD pump attached. You should also make sure that your family members or carer know how to use the spillage kit.

Patient Information

If your chemotherapy infusion leaks or spills, you should:

- keep people (especially children and pregnant women) and animals away from the spillage area
- turn off the CADD pump (press the power button on the right-hand side of the pump. It will display a 'Stop pump?' message. Select 'Yes'. It will then display 'Power down?'. Select 'Yes'.)
- call the AHOU 24-hour Emergency Helpline for further instructions

You must then clean up the spillage following the instructions below:

1. Stay connected to your CADD pump and chemotherapy line.
2. Open the spillage kit (away from the spillage) and put on both pairs of gloves and the apron).
3. Soak up the spillage using the absorbent pads provided then put them in the orange bag.
4. Allow the area to dry.
5. Clean the area with water and leave to dry again.
6. Remove the top gloves and apron and put in to the orange bag provided.
7. With the bottom pair of gloves on, place the CADD pump and bag with the treatment in, into the second orange bag. You will still be connected to the CADD pump.
8. Remove the gloves and put these into the first orange bag. Tie the top of both of the bags loosely.
9. When it is safe to do so, return to the hospital with the orange bags. Someone should drive you to the hospital to prevent further spillage, as you will need to hold the bag containing the treatment upright to prevent further spills.

The chemotherapy infusion can cause irritation if it touches your skin. If this happens, hold the affected skin under cold, running water for 5 minutes.

If the chemotherapy infusion splashes into your eyes, you should rinse them with running water immediately for 10 minutes.

Patient Information

Care of your central line

You must check your central line (PICC) site regularly and report any problems to the AHOU 24-hour emergency helpline.

Problems may include:

- the waterproof dressing lifting away from your skin
- visible fluid leaking under the dressing
- visible swelling under the dressing
- leaking from the tubing
- redness, pain, heat or swelling at the line site (these are all signs of infection)

In an emergency

You must call **999** if you experience:

- chest pains
- difficulty breathing (wheezing or shortness of breath)
- swelling of your throat or face

These symptoms may mean that you are having a very serious allergic reaction and need urgent medical attention.

Contact us

Acute Haematology and Oncology Unit (AHOU)
Emergency Helpline: 0300 422 3444

Further information

Cancer Research UK
Website: www.cancerreseachuk.org

Open your internet browser and type '**CADD pump**' in the search box then select '**A study of blinatumomab for acute myeloid leukaemia**' to open and read.

You can also select the '**Chemotherapy pumps**' link and scroll down to the section that says '**CADD pump**' for more information about the pump.

Patient Information

Macmillan Cancer Support
Website: www.macmillan.org.uk/cancer-information-and-support/treatments-and-drugs/blinatumomab

Content reviewed: July 2024

Making a choice

Shared Decision Making

If you are asked to make a choice, you may have lots of questions that you want to ask. You may also want to talk over your options with your family or friends. It can help to write a list of the questions you want answered and take it to your appointment.

Ask 3 Questions

To begin with, try to make sure you get the answers to three key questions if you are asked to make a choice about your healthcare.

1. What are my options?
2. What are the pros and cons of each option for me?
3. How do I get support to help me make a decision that is right for me?

These resources have been adapted with kind permission from the MAGIC Programme, supported by the Health Foundation

* Ask 3 Questions is based on Shepherd HL, et al. Three questions that patients can ask to improve the quality of information physicians give about treatment options: A cross-over trial. Patient Education and Counselling, 2011;84: 379-85

AQuA Advancing Quality Alliance · Right Care: Shared Decision Making Programme · NHS

https://aqua.nhs.uk/resources/shared-decision-making-case-studies/