

**Outpatient Parenteral Antibiotic
Therapy (OPAT) Clinic**

TTSH Medical Centre, Basement 2

Contact:

6357 2320 (OPAT Clinic)

6357 7000 (Central Hotline)

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**Continuous Elastomeric
Infusion Pump**



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**Department of
NURSING**

Continuous Elastomeric Infusion Pump



Why Do I Need a Continuous Elastomeric Infusion Pump?

A continuous elastomeric infusion pump is used when you need a continuous administration of drugs, for example, antibiotics.

What is a Continuous Elastomeric Infusion Pump?

- It is a disposable infusion system.
- It delivers your medication continuously at a fixed flow rate into your vein.
- The medication may be completed in one or two days depending on the doctor's order.
- As the medication flows into the veins, the balloon in the pump will gradually deflate and shrink from the bottom over one to two days.



Pump before infusion
(Expanded balloon)



Pump at the end of infusion
(Deflated balloon)

What Do I Need to Do When The Pump is Empty?

You will be given a schedule to visit the clinic and the nurse will change the pump.

How Do I Take Care of My Infusion Pump?

Do's



When Carrying the Pump

- Always have it in the pouch provided
- Use a sling bag to carry it over the waist or across the body (see Fig.1)



Fig.1

When Taking a Bath/Shower

- Protect the pump from water by covering it with a plastic bag

When Sleeping

- Place the pump above the floor – for example, on a bedside table or on top of bed covers

Don'ts



During Infusion

- Put pressure over the pump
- Disconnect the pump

Parts of an Elastomeric Infusion Pump



Expert Tips

When the Pump Has Not Reduced in Size After Six Hours

- Keep the clamp open
- Check there is no kink in the tubing
- Contact the nurse immediately

Pump or Tubing is Leaking

- Close the clamp above the leaking point
- Wipe the area that the medication has come into contact with
- Contact the nurse immediately

Pump Tubing is Disconnected From Catheter Or Access Device

- DO NOT reconnect
- Keep the used bottle
- Contact the nurse immediately

You May Contact Nurses at Outpatient Parenteral Antibiotic Therapy (OPAT):

During office hours on weekdays 0830 – 1730 hours	6357 2320
After office hours/ weekends/ public holidays 0800 – 1230 hours	9722 6243 Or visit the Emergency Department

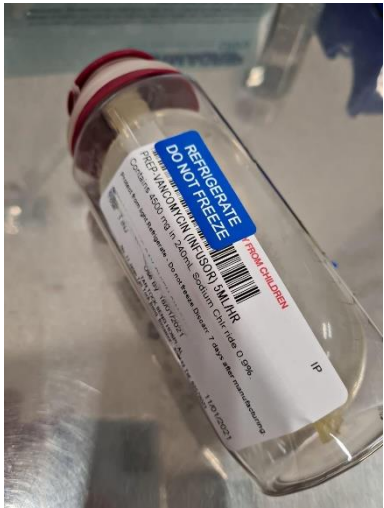
Change of Continuous Elastomeric Infusion Pump

Perform the following steps only after you have been taught by the nurse:



STEP 1: Hand Hygiene

Wash and dry your hands or use the handrub



STEP 2: Check Medication

- Check if drug label is correct:
 - ☐ Name and NRIC
 - ☐ Name and dosage of medication
 - ☐ Expiry or "used by" date
- Check that both the fill port and end of tubing are covered by caps

STEP 3: Prepare for Infusion

Prepare the following items:

- Kidney dish
- Micropore tape ½" and 1"
- Scissors
- Pre-filled normal saline syringe
- Tubifast
- Gauze
- 70% Isopropyl alcohol swab



STEP 4: Hand Hygiene

Wash and dry your hands or use the handrub



STEP 5: Expose Injection Port

- Remove the Tubifast and gauze
- Take care **NOT** to pull on the tubing

STEP 6: Disconnect Used Pump

1. Scrub the connection point between the luer lock of pump and connector of PICC using 70% Isopropyl alcohol swab
2. Disconnect infusion from the tubing by turning luer lock in an **anti-clockwise** direction
3. Scrub the septum and thread of the connector with the alcohol swab 10 times each



1
Scrub and disconnect used tubing



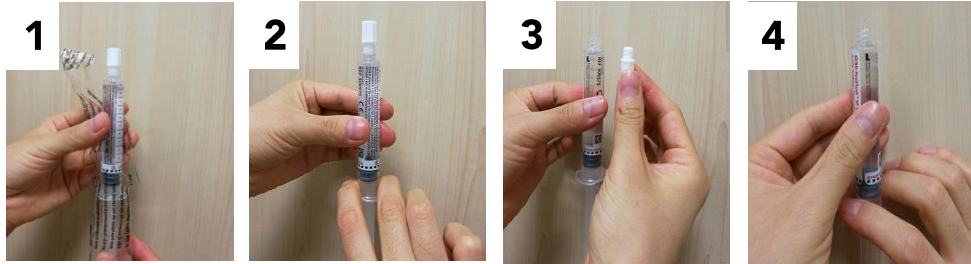
2
After disconnection of used tubing



3
Leave alcohol swab under connector after scrubbing

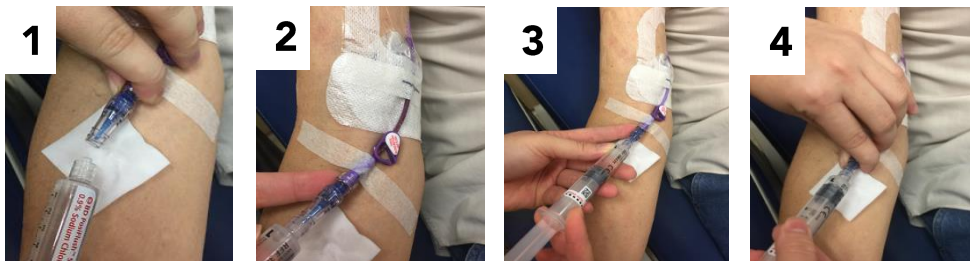
STEP 7: Prepare Pre-filled Normal Saline Syringe to Check Patency of PICC

1. Remove syringe from packaging and check expiry date
2. Depress the plunger with tip cap on
3. Remove cap from the syringe without touching the tip of the syringe
4. Push the air bubbles out from the syringe until you see one drop of saline at the tip



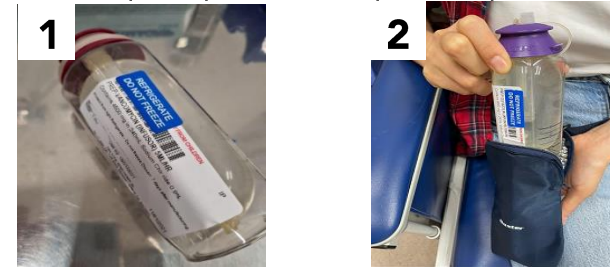
STEP 8: Perform Patency Check of PICC

1. Connect the pre-filled syringe to the PICC connector
 2. Pull the syringe plunger towards you until blood is seen along the PICC line
 3. Push in 10 ml of normal saline using the push-and-pause technique
 4. Disconnect and discard the syringe
- **DO NOT** push the saline in forcefully when resistance is felt.
 - Check that the clamp is opened.
 - Contact the nurse if you are unable to flush the line.



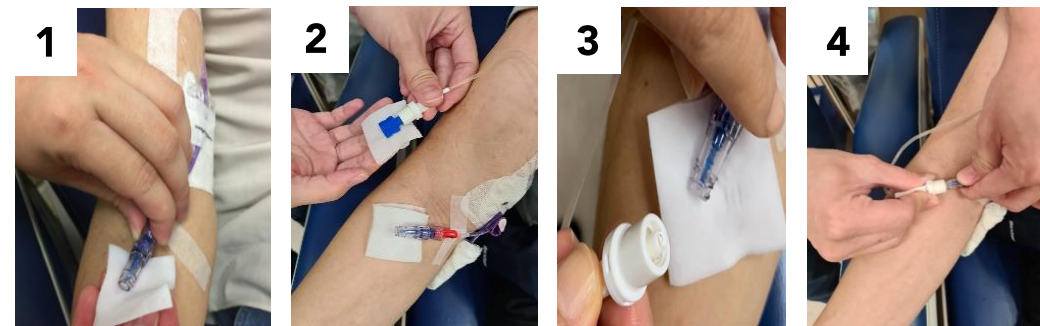
STEP 9: Check Medication Label Before Placing Pump Into Pouch Provided

1. Check if the details on the medication label are correct:
 - ☐ Name and NRIC
 - ☐ Medication name and dosage
 - ☐ Expiry or "used by" date
2. Place the pump into the pouch provided



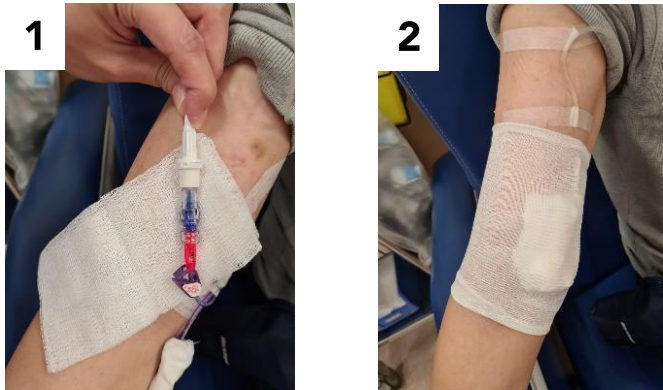
STEP 10: Prepare and Connect Pump

1. Scrub the septum and thread of the connector with alcohol swab 10 times each
2. Scrub the end cap of the pump before disconnecting
3. Observe for a drop of medication. This indicates that the pump is infusing medication
4. Connect the infusion tubing to the PICC connector by turning **clockwise** direction to lock it



STEP 11: Secure Tubing

1. Wrap the injection port in a piece of gauze and tape it in place
2. Secure the PICC with Tubifast for additional support



Issuance of Medication

To help you change the infusion pump in a correct manner at home, you or your caregiver will demonstrate the change of infusion pump under the direct supervision of a nurse on the day of discharge. Once you or your caregiver is able to change the pump correctly, the nurse will issue the **medication infusion pump**.

A nurse will connect one medication pump when you come for consultation. You will be given another infusion pump to change at home the next day **only if the medication is to be given daily**.

On the next day of consultation, you or your caregiver will need to come back to collect infusion pumps for the subsequent days **between 4.30pm to 5.00pm**.

Transportation and Storage of Medication

Your medication needs to be kept in the refrigerator **between 2°C to 8°C**. Thus, you will need to bring it home in a cooler bag.

On the Day of Medication Collection:

At Home, Before Coming to the Hospital

- Place one to two ice packs (they should be in the freezer for **at least one day**) to one side of the cooler bag and zip up the bag

At Clinic, Just Before Leaving the Hospital

- Place the infusion pumps into the cooler bag with ice packs
- Keep the cooler bag zipped up during transportation
- **Go home immediately** after collecting the medication
- Transfer the infusion pumps to the refrigerator **immediately** when you reached home
- Keep the infusion pumps separately on the upper shelf of the refrigerator, **away from other items**

Note:

- **DO NOT** put pressure over the pump
- **DO NOT** put the pump in the microwave or under direct heat or sunlight
- **DO NOT** immerse the pump in water to warm up the medication

Important Information for Patient:

- Length of infusion (approximate):
 - ☐ 24 hours
 - ☐ 48 hours
 - ☐ Others: _____
- Time to change the pump on the first day at home:

- Time to change the pump from the second day onwards:

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Close Tubing Clamp to Stop Infusion and Notify Nurse When You Experience the Following Conditions:

- Fever
- Rash
- Shortness of breath
- Eye or lip swelling
- Part of PICC or entire PICC line has slipped / pulled out
- Leaking from the line
- Unable to flush PICC line
- Medication pump is leaking
- Swelling / pain / pus at PICC insertion site
- Arm with PICC is swollen