



Infusor[®]: administration of (chemo)therapy with an infusion pump

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Several cancer treatments can be administered by using an Infusor[®], also referred to as an infusion pump.

This booklet provides you with an explanation of how Infusor[®] therapy works, what you should be aware of when receiving treatment at home, and what you can do if problems occur.

This booklet also provides information to your home care nurse.

If you have any questions or concerns, please contact UZ Leuven on **016 33 22 11** and ask to be referred to your nursing care unit or the outpatient care centre where you receive treatment.

HOW DOES INFUSOR® THERAPY WORK?

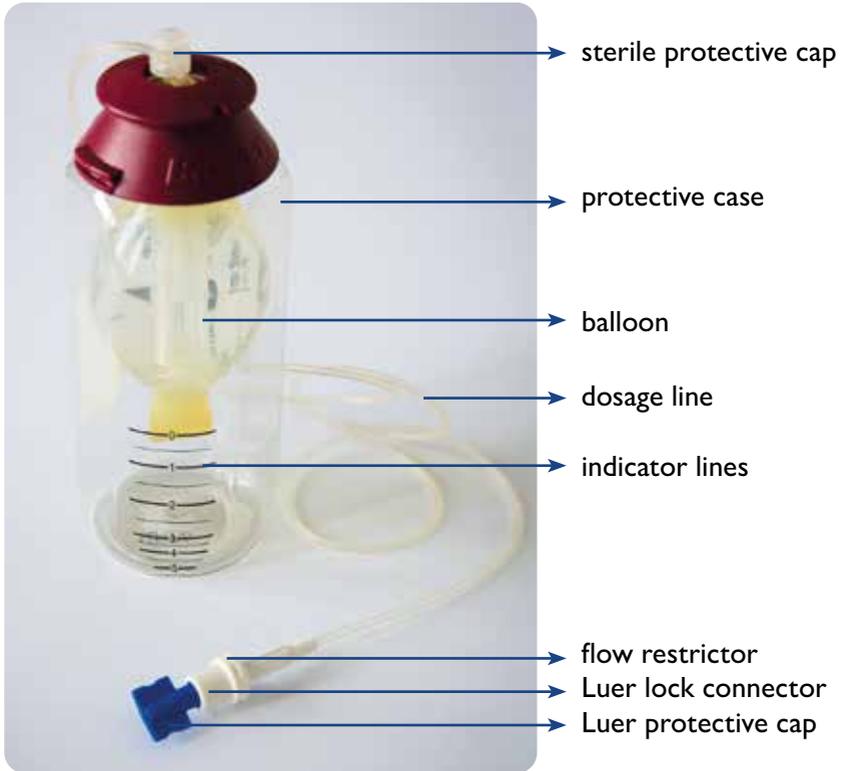
The Infusor® is an infusion pump that works by delivering medication such as chemotherapy through an intravenous (IV) or central line into the body. The infusion pump will depense your therapy gradually to ensure an optimal dosage of the therapy which will limit any side effects that you might experience. The infusion pump is small enough to be carried with you in a carry bag, and allows you to return home while providing the required treatment.

The Infusor® will be started at the (outpatient) clinic or nursing care unit where you are treated. This means you will visit the hospital each time to get started, but the next following days (duration depends on which treatment you receive), you receive the treatment at home. This allows our patients to spend more time at home.

Depending on your treatment, it is possible that you receive other medication (e.g., other chemo drugs) first via your IV or central line before your start with the infusion pump. Your Infusor® will be connected to your implanted port, PICC or other type of tunneled catheter at the hospital. When your treatment is finished, an at home care nurse will disconnect your Infusor®.

Your Infusor® is a small plastic bottle that you can carry around. This allows you to largely continue your daily activities during treatment.

WHAT DOES AN INFUSOR® LOOK LIKE?



HOW CAN YOU BE SURE THAT THE THERAPY IS ADMINISTERED AS PLANNED AT HOME?

The Infusor[®] is a small pump made of plastic and it has a balloon that contains your (chemo)therapy medication. When your treatment with the infusion pump is started, you are able to see that the balloon is filled with liquid (see image on previous page).

Once the Infusor[®] is connected to your implanted port, PICC or other tunneled catheter at the hospital, the balloon will slowly empty on its own. The flow restrictor (see image) controls the pace of this administration of your medication. For an optimal administration, the nurse will tape the flow restrictor against your skin. The administration via the infusion pump may take several days (2, 4, 5 or 7) depending on your treatment. Your doctor or nurse will provide you with more information about the specific duration of your treatment.

You or your nurse can check whether the Infusor[®] is working at the correct speed by the indicator lines on the case (see above image). You can also verify whether the Infusor[®] is working correctly by checking its weight. If you weigh the Infusor[®] daily around the same time at home, you will see that the weight slowly goes down. Preferably use the same scales each time.

The following are approximate weights, a minor deviation (10 g) is always possible.

Infusor [®] which is administered over 46 hours Bordeaux pump		
day	time	approximate weight
0	0	308 g
1	after 24 hours	181 g
2	after 46 hours	64 g (the pump will now be empty)

Infusor® which is administered over 4 days
yellow pump

day	time	approximate weight
0	0	268 g
1	24 hours	217 g
2	48 hours	166 g
3	72 hours	115 g
4	96 hours	64 g (the pump will now be empty)

Infusor® which is administered over 5 days
yellow pump

day	time	approximate weight
0	0	318 g
1	24	268 g
2	48	217 g
3	72	166 g
4	96	115 g
5	120	64 g (the pump will now be empty)

Infusor® which is administered over 7 days
pink pump

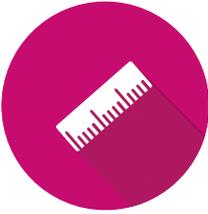
day	time	approximate weight
0	0	331 g
1	24	293 g
2	48	255 g
3	72	217 g
4	96	179 g
5	120	141
6	144	103 g
7	168	64 g (the pump will now be empty)

WHAT SHOULD YOU BE AWARE OF DURING YOUR TREATMENT WITH AN INFUSOR® AT HOME?

- ✗ You will be provided at the hospital with a pouch (carry bag) to store your Infusor®. You can wear the pouch around your neck or attach it to you waist with an adjustable belt (see image). It is also small enough to carry it around in large pockets. Ensure to always attach the belt to prevent the infusion pump from being dropped by accident.



- ✗ Ensure that the tube of your infusion pump is neatly rolled up (as the nurse will show you), and that there are no kinks that might occlude your tube. This will also ensure that your tube not get caught behind a door handle, chair, etc. If excessive pressure is applied, your IV or central line can get damaged. For example, the needle in the implanted port may become dislodged or the PICC (or tunneled catheter) line may be pulled out of place, which can result in accidental leaks from your catheter into surrounding tissues or onto your skin (also called extravasation). If extravasation occurs, it can cause skin irritation or damage the surrounding tissues. Therefore it requires immediate treatment.



X Ensure to not put the Infusor® anywhere extremely low or high so that the **height difference** between the infusion pump and your catheter largely remains the same. This is important for the infusion pump to run correctly. You can place the infusion pump in your bed or, if necessary, under your pillow. However, it is not advised to place it on the floor or your night stand.



X The **flow restrictor** controls the duration of the administration of the (chemo)therapy. It is regulated by your own **body temperature**. Therefore, the nurse will attach the flow restrictor (see image) against your skin. Make sure the flow restrictor stays attached for the duration of the therapy, as well as to not subject your infusion pump to excessive temperature (fluctuations). This is important for a constant administration rate. For example, a temperature above 38°C (e.g., full sun, sauna) and frost should be avoided. During the winter, it is advisable to keep the infusion pump close to your body.

flow restrictor





X Make sure that the Infusor[®] does not come into contact with **water**. Seal the Infusor[®] in a plastic bag when showering. Do not immerse the Infusor[®] in water (e.g., when taking a bath).

X Make sure that the **dressing on the catheter** stays dry and securely attached. The nurse at the hospital will cover the port catheter needle or insertion point of the catheter with a sterile dressing. Be sure to check regularly if the dressing (and bandage) are still securely attached. Preferably use an extra bandage (transparent) when taking a bath or shower.



X **Sports (walking, gentle cycling, etc.) and travelling** are ok with an Infusor[®]. But remember that the infusion pump must be kept dry and must not be exposed to extreme temperatures. If you have an implanted catheter (e.g. port), remember to not make excessive upper body movements as this can dislodge the catheter. This could dislodge the port catheter. An Infusor[®] can easily be worn when travelling by plane but the needle of an inserted port catheter will trigger an alarm when passing through security at the airport. Ask your doctor for a certificate to verify that you are being treated to avoid problems during customs and excise controls.

WHAT IS USEFUL TO HAVE AT HAND WHEN RECEIVING TREATMENT WITH AN INFUSOR® AT HOME?



Because you are at home during your treatment with an Infusor®, it is advisable to have appropriate **care products** at hand:

- Disinfectant: chlorhexidine 2% in 70% alcohol
- Sterile dressings
- Sterile bandages
- Kitchen scales where applicable
- A box of plastic disposable gloves

WHAT SHOULD YOU DO IN THE EVENT OF A PROBLEM DURING THE TREATMENT AT HOME?

IT APPEARS AS IF THE INFUSOR® IS NOT EMPTYING

- ✗ Check the indicator lines or the weight of the Infusor® (see tables pages 6 and 7) to see if it is operating at the correct speed.
- ✗ If the Infusor® is not running at the correct speed:

- There is only a small chance that a **kink in the infusion tube** is preventing the administration of the medication. If the fluid is not running, ask your nurse to check if there is a kink in the tube that needs to be removed.
- Check whether **the tube is blocked by the (yellow or another colour) clamp**. If the tube is closed, open the clamp.



The tube is closed by the clamp.



The tube is not closed by the clamp.

- Check if you see blood in the tube. This should go away by removing the kink from the tube or opening the clamp.
- ✗ If it still seems that the Infusor® is not running (e.g., remains just as full, same weight), contact the hospital or your home care nurse.

THERE APPEARS TO BE A LEAK

- X You will notice the dressing or bandage on the catheter becoming damp or you'll see wet patches on your clothing or skin. When the liquid from the Infusor® comes into contact with the skin, it can cause a burning sensation or itching.
- X Leaks can occur at different locations in the system. First establish **where** the system has developed a leak.

a) There is a leak at the port catheter needle or insertion point of the PICC.

- ✓ Close the clamp on the tube.
- ✓ NEVER push a port catheter needle or slipped PICC back into the body. Disinfect your skin with a sterile compress with chlorhexidine 2% in 70% alcohol and cover your skin with a sterile dressing.
- ✓ Contact your home care nurse or the hospital.

b) There is a leak at the connection between the catheter line and the Infusor® tube.

- ✓ The connection has dislodged **completely**:
 - Disinfect your hands or wash them thoroughly.
 - Wear gloves.
 - Close the clamp on the port or PICC.
 - Disinfect the ends of both tubes with a sterile compress moistened with an alcohol based disinfectant or chlorhexidine 2% in 70% alcohol
 - Reconnect the tubes.
 - Contact the hospital.

- ✓ The connection has **not completely** dislodged:
 - Disinfect your hands or wash them thoroughly.
 - Wear gloves.
 - Moisten a sterile compress with chlorhexidine 2% in 70% alcohol and hold it under the connection between the two tubes.
 - Try to tighten the connection slightly.
 - Wash your hands.
 - Check whether there is still a leak.
 - If the problem has not been resolved contact the hospital or your home care nurse.

c) There is a leak in the tube (the tube appears broken or cut)

- ✓ Disinfect your hands or wash them thoroughly.
- ✓ Wear gloves.
- ✓ Close the clamp on the catheter.
- ✓ Place the Infusor[®] in a securely sealed bag and bring it with you to the hospital.
- ✓ Contact the hospital immediately.

d) The Infusor[®] is broken

- ✓ Disinfect your hands or wash them thoroughly.
- ✓ Wear gloves.
- ✓ Close the clamp on the catheter.
- ✓ Place the Infusor[®] in a plastic bag.
- ✓ Contact the hospital immediately.

If the infusion liquid came into contact with your skin, wash it thoroughly.

Always clear up spilled medication wearing gloves and using paper towels.

If the infusion liquid came into contact with your clothing, wash it separately.

If the course of action is still unclear, do not hesitate to contact UZ Leuven on **016 33 22 11** and ask to be referred to your nursing care unit or the outpatient care centre where you receive treatment.

HOW DO YOU KNOW WHEN THE TREATMENT IS FINISHED?

At the hospital you will be given instructions on how long the Infusor® will run and when it should be empty. Ask the nurse to notate on the infusion pump the date and time that the Infusor® should be empty.

The Infusor® will be completely empty when you see eight raised 'bobbles' on the empty balloon.

Contact your home care nurse if the Infusor® doesn't empty on time.

WHAT NEEDS TO BE DONE WHEN THE INFUSOR® IS EMPTY?

When your Infusor® is empty, it will be disconnected from the catheter. To arrange this you can make an appointment with the outpatient care centre or ask a home care nurse. Further information for the home care nurse concerning the disconnection procedure is provided at the end of this brochure.

If your home care nurse disconnects the Infusor®, you should be provided with the following materials at the hospital:

- 1 prefilled syringe with physiological saline solution (NaCl 0.9%)
- Sterile bandages
- If you have a PICC: an orange cap

INFORMATION FOR THE HOME CARE NURSE: DISCONNECTING THE INFUSOR®

PREPARATION

- ✓ Help the patient in a more comfortable position, and make sure you have easy access to the catheter site (ask your patient to wear loose-fitting clothes).
- ✓ Disinfect your hands for 15 seconds using hand alcohol.
- ✓ Disinfect the work area with chlorhexidine 2% in 70% alcohol.
- ✓ Gather the necessary materials:
 - Germ free disposable gloves
 - 1 packet of sterile dressings
 - Chlorhexidine 2% in 70% alcohol
 - 1 (prefilled) syringe with physiological saline solution (NaCl 0.9%)
 - Sterile bandages
 - Orange cap for a PICC catheter
- ✓ Moisten sterile dressings with chlorhexidine 2% in 70% alcohol.
- ✓ Wear germ free disposable gloves.

PROCEDURE

✓ Step 1: Disconnecting the infusion pump

- Close the clamp on the catheter tube.



- Hold a sterile compress soaked in chlorhexidine 2% in 70% alcohol under the connection between the catheter tube and the infusion pump tube.



- Disconnect the infusion pump and catheter tubes.
- Close the Infusor[®] with the orange cap or replace the end piece on the Infusor[®] to prevent drops of chemo from escaping.

✓ **Step 2: Flushing the port catheter or PICC catheter**

- Place the syringe with physiological saline solution (without needle) on the catheter tube.
- Open the clamp on the catheter tube.
- Inject 10 ml of physiological saline solution through pulsatile flushing.



- Close the catheter under positive pressure (= close the clamp whilst the last millimetres of NaCl 0.9% are injected). Press down the tamper holder when closing the clamp.

✓ **Step 3: closing the catheter**

- Place the orange cap on the PICC.
- Or remove the needle from the port catheter.
- Remove the dressing.

- Get hold of the 2 wings.
Fixate the round disc with your other hand.



- Ask the patient to take a deep breath.
- Pull the needle vertically in an upward motion whilst the disc is fixed to the skin.



- Continue to pull the needle until a little green ball becomes visible on the disc. The needle remains in position in the round disc. This will prevent care providers from accidentally puncturing their skin.



- Disinfect the insertion site with a sterile compress soaked in chlorhexidine 2% in 70% alcohol.
- Allow to dry and cover with a sterile dressing

AFTERCARE

- ✓ Help the patient to get dressed again and adopt a comfortable position.
- ✓ Always remove the secured port catheter needle in a needle container. Needle containers can be purchased from a pharmacy. If the patient has a needle container and it is full, they can bring it to the hospital. Needles must **never be disposed of in regular waste bin bags.**
- ✓ The Infusor[®] must also not be disposed of in the waste bin. The patient should bring the Infusor[®] to the hospital when they attend their next appointment. Prevent further leakage from the Infusor[®] by closing the tube with a cap or replacing the end of the tube back onto the insertion position.

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