

Continuous Subcutaneous Lidocaine for Pain Management

The purpose of this booklet is to provide you with information about treating your pain with continuous subcutaneous lidocaine and how to care for your infusion at home. If you have any other questions, or if you don't understand this information, please be sure to ask either your doctor or your nurse.

Why continuous subcutaneous lidocaine?

In certain types of pain, it has been found that the pain is caused either by nerves that are injured or nerves that are not working right. This is called "neuropathic" pain. In addition to hurting, neuropathic pain may also feel like "pins and needles", "burning", "stiffness", "numbness" or "tingling". It has been found that lidocaine can be very useful in easing this type of pain. This medicine does not come in the form of a pill, so it is given through a very small thumbtack-like needle under the skin.

Are there any side effects?

Yes, like most medicines, lidocaine may have side effects. Side effects can be mild, moderate or severe and depends on how much medicine is in your bloodstream. It is important for you to know that side effects are related to the level of lidocaine in your bloodstream. The amount of lidocaine in your bloodstream is called the "serum" level. You will have serum levels of lidocaine checked on a regular basis.

As long as your lidocaine level is within the 2-6 mcg/ml range, you should not be at risk for any severe side effects. During the start of your treatment, the nurse will be checking you frequently and asking you if you have any side effects. It is important for you to learn the following list of side effects and report them at any time. If you have these side effects, the dose of your medicine may need to be changed. **You should report any of the following:**

Mild side effects (at serum levels 3-8 mcg/ml)

- numbness and tingling in the fingers and toes
- numbness and unusual sensations around your mouth
- a metallic taste in your mouth
- ringing in the ears
- feeling lightheaded or dizzy

Moderate side effects (at serum levels 8-12 mcg/ml)

- nausea and vomiting
- severe dizziness
- decreased hearing
- tremors (feeling shaky)
- changes in blood pressure and pulse

Severe side effects (at serum levels >12 mcg/ml)

- drowsiness
- confusion
- muscle twitching
- convulsions
- loss of consciousness
- serious heart problems

If you have any of these side effects, turn off the infusion and make sure to have your lidocaine level drawn. Remember that the mild side effects will occur first and are an early warning of lidocaine toxicity. It is very important to pay attention to the mild and moderate side effects listed above.

Most of the time, the side effects will be gone within 30 minutes to an hour after stopping the infusion, but you may have to wait longer for them to subside. We recommend that when the infusion is restarted, the dose should be reduced by 20%

How can I help?

- Use a pain scale to describe your pain. For example, on a scale of 0 to 10, with 0 being no pain, and 10 being the worst pain you can imagine, how much pain do you have right now?
- Be familiar with the possible side effects and report any side effects to your nurse and doctor. When at home, be prepared to make arrangements to have your lidocaine level drawn if needed.
- Talk with your doctors and nurses about any concerns or fears you may have about pain and its treatment.
- Tell us about the medicines you take for other health problems. We need to know because mixing some drugs with pain medicines can cause problems.
- Take an active role in learning how to use this treatment at home.

How long will I use this treatment?

This treatment is started in the hospital and it usually takes about 2-3 days to find the right dose that will relieve your pain. The total length of time you will be treated with this medicine depends on how well it works to control your pain. Most patients will receive this treatment for at least a few months.

How do I manage this treatment at home?

Before you go home, a nurse from a Home Infusion Company will meet with you to obtain equipment and medicine for you to use at home. The nurse will also review the instructions on how to care for the infusion pump and needle site at home and how to arrange for lidocaine levels to be drawn when necessary.

Who do I call for questions or concerns?

Home Infusion Company: _____

Other: _____

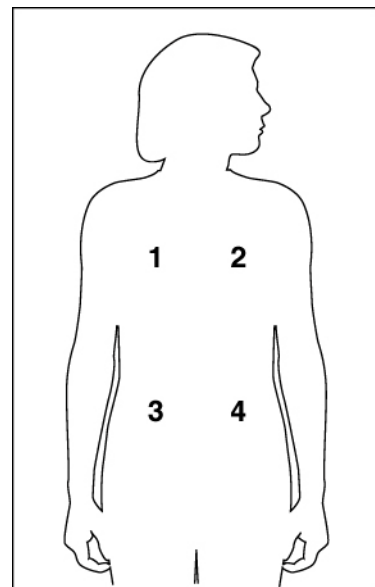
Directions for needle site changes

Using the Sof-Set

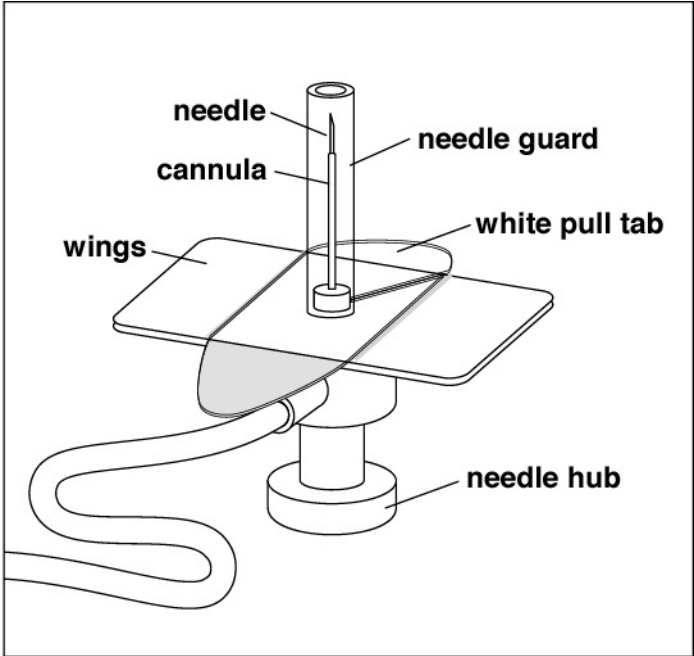
The sof-set is a small needle used in the continuous subcutaneous administration of medicine. Subcutaneous means just below the skin. If you are using Sof-set for the first time, we suggest that you do your first set-up in the presence of your health care provider.

Directions:

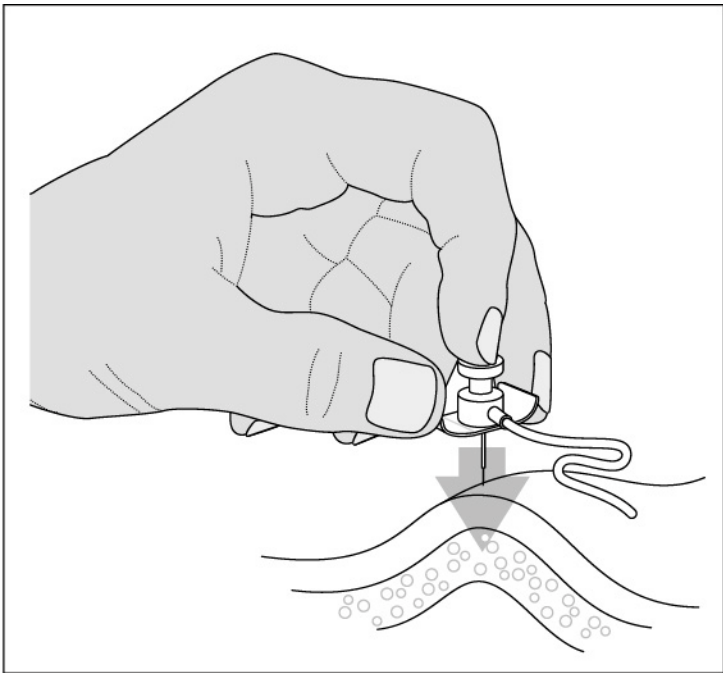
1. Wash your hands.
2. Gather all the needed supplies and place them on a clean table or preparation area:
 - infusion pump with medicine container
 - new pump tubing
 - sof-set
 - one alcohol prep swab
 - roll of paper tape
 - needle discard box
3. Connect the Sof-set to the pump tubing. Then connect the entire tubing set-up to the medicine container.
4. Fill the tubing and Sof-set with medicine from the infusion pump (following the pump manufacturer's instructions), until the entire set-up appears full.
5. Tear off several 2 inch pieces of the paper tape and place in an easy-to-reach area for later.
6. Select an insertion site for the Sof-set cannula. Any area with a layer of fat can be used for an infusion site. For comfort and convenience, most people rotate sites around the front of their chest and abdomen (see drawing).
7. Open up the alcohol swab and clean the selected site, using a circular motion from the center outward, for at least 30 seconds.
8. Remove the Sof-set from its plastic guard by firmly gripping the wing and sliding it out. **Caution:** Do not pull on Sof-set tubing to remove it from the package.
9. Lift the white adhesive tab to remove the Sof-set's adhesive backing and peel it off.



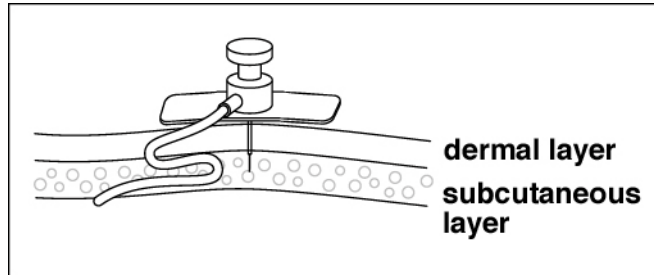
10. Check to be sure the point of the needle is extended beyond the soft cannula. If it is not, advance the needle by pushing the needle hub until the needle is visible (see drawing below)



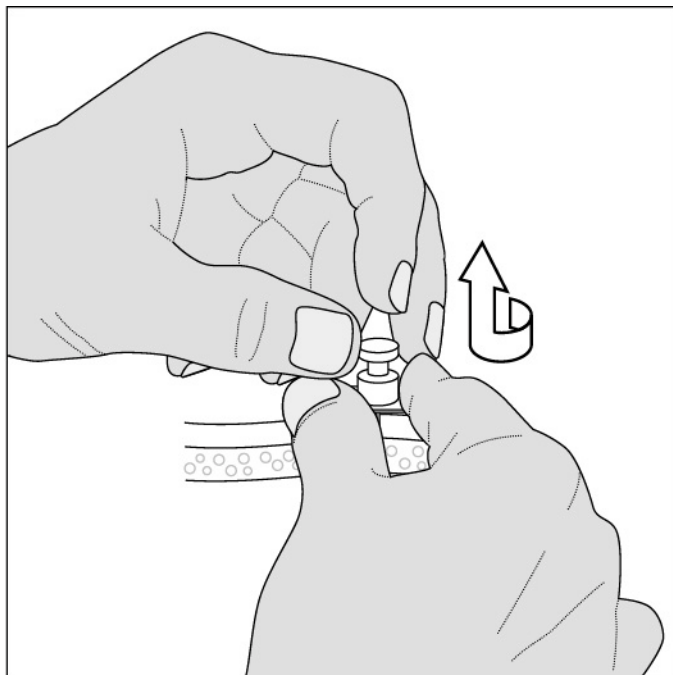
11. Hold the wings on each side with your thumb and middle finger. Use your index finger to stabilize the top of the plastic needle hub. Flex the wing up as show in drawing below.



12. Pinch the subcutaneous tissue as you would to give an injection. While holding the plastic needle hub, insert the needle at a 90° angle straight into the infusion site.
13. Check to be sure that the cannula is fully inserted into the subcutaneous tissue (see drawing below).



14. Securely hold the Sof-set in place and withdraw the introducer needle (see drawing below). Be sure not to pull the entire Sof-set out of the skin while removing the needle. Never reinsert the introducer needle into the Sof-set. Reinsertion could cause tearing of the cannula and result in unpredictable lidocaine flow.



15. Securely tape the Sof-set in place using the paper tape. It is recommended that you do not use the white bandage which comes with the Sof-set to avoid skin irritation.

16. Make a loose loop of infusion tubing and anchor with tape to avoid tension on the site.
17. Discard the needle introducer in your needle discard box.
18. Follow the pump instruction to resume your infusion.

The infusion site should be changed about every 48 to 72 hours or sooner if inflammation or leakage occurs. If the infusion is running at 3 ml or more per hour, you may need to use two different sites.

References

Backonja, M, and Gombar, KA, (1992). Response of central pain syndromes to intravenous lidocaine. *Journal of Pain and Symptom Management*. 7(3), 172-178.

Glazer, S, and Portenoy, RK (1991). Systemic local anesthetics in pain control. *Journal of pain and Symptom Management*. 6(1), 30-39.

UWHC Nursing Policy #10.18. Continuous Subcutaneous Lidocaine Infusion.