

Neonatal home care at Astrid Lindgren's childrens hospital



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UNIVERSITETSSJUKHUSET
ASTRID LINDGREN'S BARN SJUKHUS



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Astrid Lindgren's childrens hospital is a part of Karolinska university hospital. We offer home care services for children in need of specialist care during the neonatal period. A nurse from the homecare services visits your home one or several times per week, depending on your family's needs. Neonatal home care is carried out in close collaboration with neonatal hospital services at our hospital units in Solna, Huddinge and Danderyd.

Prerequisites for neonatal home care

- The baby's breathing and circulation is stable.
- The body temperature of the baby is stable without the need of a warming mattress.
- Access to a child safety car seat for transports between your home and the hospital in a car or taxi (a patient transport card is available).

What is home care in practice?

Home care is staffed daytime Monday to Friday. During the admission period, the child is still admitted to the neonatal department of the hospital. This means that you may call the neonatal unit around the clock for advice. Prior to home care transfer, you will get guidance on how to best observe your baby. You will also receive information and guidance concerning any treatments that are to be performed at home, such as gavage feeding or phototherapy.

Home care visits are planned based on your baby's needs and the frequency may vary during your care period. You may sometimes need to visit the hospital for a physician appointment or for other reasons such as adjustment of the feeding tube.

The baby will be discharged when it is medically stable, is able to eat independently (breastfeeding or supplement) and when he or she gains weight satisfactory. In some cases, phototherapy should be completed and the bilirubin levels should decrease steadily.

If the baby is infected at home and re-hospitalization is required, he or she is normally not admitted to a neonatal unit, since the risk of disease transmission to other patients is too large.

During the visit

The nurse will assess the baby's general health status and will consider factors such as vitality, breathing, a runny nose, body temperature, skin colour, skin folds, faeces and urine.

The baby is weighed and the nutritional planning is evaluated together with the parents. If necessary, the feeding tube is changed and necessary blood sampling is carried out. The nurse will have time reserved to answer questions and to give additional information according to the needs of the parents.

Body temperature regulation

To receive care at home, the baby needs to be able to keep its body temperature without a warming mattress. Since body temperature regulation is not yet fully developed, parents need to check the temperature twice a day during the first days. It should stay between 36,7°C and 37,2°C. A cold baby will use a lot of energy to maintain a normal body temperature instead of gaining weight. If the baby gets too hot, it may become tired and less interested in eating. When the baby's temperature has become stable, it is enough to assess body temperature by touching the baby's neck, back and belly.

If your baby is getting cold:

- Place the baby skin-to-skin
- Use a baby wrap or kangaroo tube/shirt
- Use an indoor hat
- Put on several layers of clothes or blankets in bed

Sleep

According to governmental guidelines, the risk of Sudden Infant Death Syndrome is lower when the child sleeps on its back at times when parents cannot monitor the child. A supine position is considered to be safer than a lateral position since the baby could roll over from side to belly. The baby should sleep in its own bed in the parent's bedroom or in a separate bed in the bed of the parents. A separate bed means that the child should have its own mattress and blanket to prevent over-heating. Remove unnecessary pillows that may fall over the child.

Neck exercise

Put your baby in prone position a few times a day when awake, helping the child to train the strength of the neck muscles.

Bath

Some babies loves bathing, but one or two times per week is enough. Between baths, the baby can be cleaned with a wet cloth. Neck folds, groins, ear folds and armpits should be checked every day in order to keep these areas dry and clean. Bathing is appropriate also before before the umbilical cord base has fallen off.





Diaper change

Some babies get a diaper rash since their stool is loose, frequent and a bit corrosive. Use a dry cloth or wipe soaked with lukewarm water when cleaning. Keep the skin dry, airy and clean. Rashes may be dabbed with breastmilk. Ointments can also be used to protect the skin. Consult your home healthcare nurse for advice.

Visits - infection hazards, hand hygiene and smoking

A newborn baby needs peace and quiet to grow properly. Premature babies are more sensitive than others when it comes to visual stimuli and sounds. Try to balance visits from family and friends with what your baby and you as a family can cope with. Limit visits during the first few days. No visitors should have colds or other infectious diseases. Since preschool children are more prone to catching infectious diseases, their visits should be limited. Though it is very good to stay outdoors, it may be suitable to avoid environments where many people gather, such as public transport or malls. If a family member is infected, he or she should avoid close contact with the baby, for example kisses or sneezing close to the baby. Adequate hand hygiene is usually maintained by washing hands with soap and water. At times when infectious diseases are common, hand disinfectant should be used. It is important to maintain a non-smoking indoor environment, since premature lungs are particularly sensitive to smoke.

Means of transportation

All families admitted to home care services need to be able to travel back and forth from the hospital. If the family does not have access to a car, you will receive a patient transport card that can be loaded with taxi journeys. The price for a taxi journey to or from the hospital is SEK 140 with a valid patient transport card. The total maximum yearly cost is SEK 1400. Public transport is not recommended during the admission period due to infection hazards. An approved infant seat should be brought to the hospital before the first journey home. It is possible to apply for a car journey mileage reimbursement.

Gavage feeding

- Heat the food in water to a temperature of 37°C.
- Throw away excess food after the meal.
- The stock of syringes for gavage feeding is refilled by home healthcare staff during the admission period.
- Always check the position of the feeding hose before feeding.
- Check that the tape is properly attached to the skin.
- Check that the red mark is properly placed by the nostril in accordance with the numeric mark.
- Place the syringe to the feeding tube and pull slowly backwards. If gastric content appears in the syringe, this is a sign that the feeding tube is correctly positioned in the stomach.
- If no gastric content appears, try to inject 2 ml of air, and pull back again to see if gastric content now appears in the syringe. The baby may also be put in another position or you can try to give some food orally, or by cup feeding/breastfeeding.
- If the baby has started breastfeeding, it is easier to receive gastric content return when pulling the syringe.
- Never feed without receiving return of gastric content in the syringe. The feeding tube position may be incorrect.
- The baby may preferably receive gavage feeding when positioned skin-to-skin on parents' chest or lying by the breast in order to associate fullness with the breast, to create close contact and for you to see how the baby reacts to the feeding.
- Finish the feeding session by injecting about 0,5 ml of air into the feeding tube.
- Clean the syringes by pulling them apart. Rinse first with cold and then hot water. Let air dry. Reuse them and change syringes twice daily, in the morning and in the evening.
- The feeding syringes may not be boiled or put in a dishwasher.
- Gavage feeding should only be done by parents or family members who have been taught by a nurse.
- The feeding tube should be replaced by a nurse from the home healthcare services with an interval of 1-2 weeks.



Pumping and handling breastmilk

Breastmilk pumping should be performed directly after feeding the baby. Wash hands before pumping. Afterwards, the bottles and accessories should be rinsed with cold water. Dishwash or hand wash. Let air dry. Pumping set, bottles and nipples (no tubes) should be boiled for five minutes once every day.

An electric breast pump may be borrowed from the hospital ward free of charge as long as the child is admitted to home healthcare services.

Storing breastmilk and infant formula

Pumped breastmilk can be stored in a refrigerator (+4°C to +6°C) for a maximum of two days. Do not mix cold and warm milk, but you may mix cold milk as long as it is pumped the same day. Mark the bottles with pumping date.

Breastmilk may be put in a freezer within a day from pumping. The durability is six months in a temperature of -18°C or less. The frozen milk is thawed in a refrigerator over the night, or in a cold water bath for 2-3 hours. The thawed milk is durable for two days and may not be re-frozen.

An opened package of infant formula is usually durable for one month. Mix the powder with boiled water that has been cooled. The prepared formula can be stored for 24 hours in a refrigerator. Infant formula with additives has the same durability.

Food enrichments

All kinds of infant formulas and enrichments are free of charge as long as the baby is admitted to home healthcare services.

The dietician and/or nurse will teach you how to prepare food enrichments before hospital discharge. A written instruction will be enclosed (dietician letter).



How to observe the baby's general health condition

Parents' own observations are very important, since the parents know their baby best. Pay particular attention to:

- Skin colour - for example paleness.
- If the child is tired and cannot manage to eat.
- Body temperature.
- Nasal congestion, a runny nose or sticky eyes. Always keep saline at home.
- Excessive vomiting independent of meals, for example in a horizontal position.
- Grimacing or loss of appetite.
- If the umbilicus turns red and sticky - wash with saline and a clean compress.

Contact home healthcare services when:

- The feeding tube is repositioned and a nurse visit is not planned within the next few hours.
- The body temperature goes below 36,5°C, despite measures to warm up the baby.
- The baby's breathing pattern and skin color is changed.
- The child is more tired and cannot eat as before.
- There is no "return" of gastric content when the feeding tube position is checked.

Outside of office hours, the neonatal ward should be contacted. See our website (karolinska.se/neohemsjukvard) for contact details.

Necessary equipment during the first period at home

To receive from the ward

- Syringes for gavage feeding
- Tape for fixation of the feeding tube
- Breast pump on loan/for rent
- Premature formula (if prescribed)
- Eventual enrichments for mixing with breastmilk/formula
- Eventual drugs to be administered at home

All families receive a box containing consumables at their first nurse visit. The box should be stored inaccessible for siblings. The content is used by the nurse at home visits.

To buy

- Diapers - premature diapers is sold at pharmacies
- Saline for washing nose and eyes
- Thermometer for checking body temperature
- Eventual breastfeeding nipple and pacifier
- Bottles for food heating
- Ointments