

Discharge Procedures for Healthy Newborns

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Physicians should use a checklist to facilitate discussions with new parents before discharging their healthy newborn from the hospital. The checklist should include information on breastfeeding, warning signs of illness, and ways to keep the child healthy and safe. Physicians can encourage breastfeeding by giving parents written information on hunger and feeding indicators, stool and urine patterns, and proper breastfeeding techniques. Physicians also should emphasize that infants should never be given honey or bottles of water before they are one year of age. Parents should be advised of treatments for common infant complaints such as constipation, be aware of signs and symptoms of more serious illnesses such as jaundice and lethargy, and know how to properly care for the umbilical cord and genital areas. Physicians should provide guidance on how to keep the baby safe in the crib (e.g., placing the baby on his or her back) and in the car (e.g., using a car seat that faces the rear of the car). It is also important to schedule a follow-up appointment for the infant. (*Am Fam Physician* 2006;73:849-52, 857-8. Copyright © 2006 American Academy of Family Physicians.)

► **Patient information:** A handout on caring for healthy newborns, written by the author of this article, is provided on page 857.

► **See accompanying editorial on page 771.**

Discharging a healthy infant from the hospital following delivery gives the family physician an important opportunity to emphasize preventive medicine and to strengthen the physician-patient relationship. However, the scope of newborn discharge instructions and recommendations is vast, making this a potentially daunting task. Although the postpartum nursing staff will cover some of this information with the parents, the family physician can ensure that key recommendations have been covered. A concise checklist can help ensure that important topics are addressed efficiently and can help new parents feel comfortable asking questions. This checklist should serve as a framework that physicians can modify based on their experiences and practice styles. It is useful to give parents written handouts emphasizing key points at the time of discharge so that they can refer to them later.

The American Academy of Pediatrics (AAP) Committee on Fetus and Newborn recommends that parents receive training to give them the ability and confidence to care for their newborn.¹ *Table 1*¹⁻¹³ lists the key areas that should form the basis of the hospital discharge checklist.

Feeding

It is well documented that breastfeeding benefits the mother and the infant. The American Academy of Family Physicians (AAFP) and the AAP recommend and encourage

breastfeeding.^{11,14} The best time to discuss breastfeeding is during prenatal care.

Physicians should encourage breastfeeding mothers and refer them to local lactation consultants. The AAFP recommends that breastfeeding mothers be given clear verbal and written discharge instructions, including information on hunger and feeding indicators, stool and urine patterns, jaundice, proper positioning and attachment of the baby to the breast, and techniques for expressing breast milk.¹¹ Although most prescription and over-the-counter medications are safe, physicians should inform the mother that anything she ingests potentially can be transmitted to the newborn through her breast milk. Therefore, mothers should check with their physicians before taking any prescription or over-the-counter medications. The AAP recommends that exclusively breastfed infants and infants receiving less than 500 mL of vitamin D-fortified formula receive 200 IU of vitamin D per day to prevent vitamin D deficiency and rickets.¹²

Parents who choose to bottle-feed their newborn should use a formula that contains iron, and they should not change formulas without consulting their physician. Bottles and nipples do not need to be sterilized, but they should be thoroughly cleaned with hot, soapy water. Formula only needs to be heated to room temperature, although some infants may prefer warm milk. Formula may become dangerously hot if heated in a microwave, even if the bottle feels cool to

SORT: KEY RECOMMENDATIONS FOR PRACTICE

<i>Clinical recommendation</i>	<i>Evidence rating</i>	<i>Reference</i>
Sorbitol-containing juice (e.g., prune, pear, apple) may be used to treat constipation.	C	16
Infants should remain in a rear-facing car seat until one year of age.	C	6
Infants should receive 200 IU of vitamin D per day to prevent rickets.	B	12
Infants should sleep on their backs in their own cribs to reduce the incidence of sudden infant death syndrome.	B	7

A = consistent, good-quality patient-oriented evidence; B = inconsistent or limited-quality patient-oriented evidence; C = consensus, disease-oriented evidence, usual practice, expert opinion, or case series. For information about the SORT evidence rating system, see page 755 or <http://www.aafp.org/afpsort.xml>.

the touch. Formula should be mixed thoroughly after heating and tested on the parent's skin before it is given to the newborn. Under no circumstances should a bottle be propped up when an infant is feeding. The parents should call 9-1-1 if the child seems to be choking or turning blue during feeding, and should alert their physician if the infant is losing weight.

Parents should not give their newborn bottles of water, because this may cause hyponatremia.^{3,4} Parents should

not give honey to a child younger than 12 months because this increases the risk of neonatal botulism.⁵ Solid foods generally are not introduced before four to six months of age.¹⁵

Bowel Movements and Urination Patterns

Breastfed infants typically have more than three bowel movements per day² and are rarely constipated. Watery stool may be normal; however, parents should contact their physician if the infant's stools run out of the diaper.

Formula-fed babies typically have less frequent bowel movements than breastfed babies, although a bowel movement every other day is still considered normal.

Constipation is defined as a delay or difficulty in defecation for more than two weeks.¹⁶ Parents should contact their physician if their infant has had fewer than five bowel movements per week over a two-week period.

Parents may give infants 1 oz of sorbitol-containing juice (e.g., prune, pear, apple) to treat constipation.¹⁶ Parents also may increase their infant's fluid intake or

TABLE 1
Discharge Checklist for Healthy Newborns

Properly feeding the infant

- Instruction on proper breastfeeding position, attachment, and adequacy of swallowing
- Breastfeeding mothers should consult their physicians before taking any new medications.
- Parents should not give their infant supplemental water or honey.
- Breastfed and bottle-fed infants receiving less than 500 mL of formula per day should receive 200 IU of a vitamin D supplement per day.

Urination patterns

Six or more wet diapers per day is normal for a breastfed infant after the mother's milk has come in, as well as for bottle-fed infants.

Bowel movements

More than three bowel movements per day is normal in breastfed infants.
Bottle-fed infants may have fewer bowel movements.

Umbilical cord care

Instruction on proper cleaning

Skin care

Review of common rashes

Genital care

Instruction on proper care of circumcised or uncircumcised penises, as well as care of newborn girls' genitals

Signs of illness

Rectal temperature of 100.5°F (38°C) or higher
Signs of dehydration, lethargy, poor feeding

Prevention of sudden infant death syndrome

Instruction on properly positioning the infant for sleep
Parental smoking cessation

Car seat selection and proper use

See Table 2

Follow-up appointment made at discharge

Infants younger than 24 hours, follow up within 72 hours of age
Infants 24 to 48 hours of age, follow up within 96 hours of age
Infants older than 48 hours, follow up within 120 hours of age

Information from references 1 through 13.

TABLE 2
Car Seat Recommendations for Healthy Infants

Infant's age and weight

Birth to one year of age or weight less than 20 lbs (9 kg)

Type of car seat

Infant-only or rear-facing convertible

Location in the car

All children younger than 12 years should ride in the back seat.

Seat position

Rear-facing only

Harness straps at or below shoulder level

Information from reference 6.

use glycerin suppositories. If the constipation persists, the parents should contact the physician.

Breastfed infants typically have six or more wet diapers per day after they begin feeding.² Bottle-fed infants should have a similar number of voids. However, other clinical indicators (e.g., estimated capillary refill time, skin turgor) are more accurate predictors of hydration.

Umbilical Cord Care

In the past, parents were often instructed to wipe the umbilical cord stump with isopropyl alcohol, but one study¹⁷ has demonstrated that the cord will separate sooner if it is cleansed with normal saline and allowed to dry naturally. Most cords will fall off within the first two weeks of life. If the skin around the umbilicus becomes red or if purulent discharge is present, the physician should be notified.

Skin Rashes

Neonatal skin rashes are extremely common and are often caused by maternal hormones. If the infant has a rash in the hospital, (e.g., neonatal acne, erythema toxicum neonatorum), parents should be reassured that these rashes are common and will fade, most within the first four months of life. The parents should contact their physician immediately if an infant with a rash develops a fever or becomes dehydrated, lethargic, or inconsolable.

Genital Care

Current data are insufficient to support routine neonatal circumcision.¹⁸ If parents choose to have their child circumcised, they should moisten the front of the diaper with petroleum jelly at each changing to prevent the penis from sticking to the diaper. The parents should continue this treatment until the skin is no longer moist (approximately five days). If the penis begins to bleed or swell, the parents should contact the physician.

Parents should gently cleanse uncircumcised genitals with warm water. The foreskin should never be forcibly

retracted, because this may cause phimosis. The genitals of newborn girls should also be gently washed with warm water. Bloody vaginal discharge at this age may be a normal response to maternal hormones.¹⁹ Physicians should stress to the parents the importance of properly bathing their infants.

Warning Signs

Physicians should give parents a clear list of warning signs that warrant a visit to their physician before the scheduled follow-up. Fever (rectal temperature of 100.5°F [38°C] or higher) is the most significant sign that parents should look for,²⁰ because a fever may be the only sign of a serious infection. This is a good time to talk to the parents about the importance of having a rectal thermometer at home and to show them how to use it properly. Physicians should stress to parents that their child can be seriously ill and not have a fever.

Lethargy (e.g., difficulty feeding the infant) or irritability may also indicate serious infection and may warrant a visit to the physician's office. The physician should discuss with the parents how to distinguish normal crying from an inconsolable infant.

Infants who become dehydrated should also see their physicians before the scheduled visit. Parents should look for clinical signs of dehydration such as decreased tears and dry mucous membranes.

The AAP recommends that all new parents be given written and verbal instructions regarding jaundice at the time of discharge, including an explanation of jaundice and how to monitor infants for jaundice.¹³ Parents should be instructed to contact their physician if their baby's skin looks yellow, particularly on the extremities or abdomen; if the baby's eyes turn yellow; or if these symptoms are accompanied by poor feeding, lethargy, or excessive fussiness.

Physicians should instruct parents to take their child to the nearest emergency department if they think the infant is seriously ill and they cannot reach the office.

Safety

Parents should be reminded that the safest place for their infant in the car is in a rear-facing car seat located in the middle of the back seat. The infant should remain in a rear-facing car seat until he or she weighs more than 20 pounds (9 kg) or is older than one year of age (*Table 2*).⁶

Parents should place newborns on their backs to sleep to decrease the risk of sudden infant death syndrome (SIDS). An infant's mattress should be firm, and parents should not put pillows, comforters, or large objects in

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the crib with their child. In general, children should sleep in their own cribs and not with their parents or other family members.⁷ Breastfeeding mothers who choose to share a bed with their infants should ensure that their beds are free of soft surfaces or loose covers, and should move their beds away from the wall and other furniture to prevent entrapping their infants.

Breastfeeding mothers should avoid smoking and drinking alcohol. Children who are exposed to second-hand smoke have increased risk of upper respiratory infections, otitis media, asthma, and SIDS.⁷

Follow-Up

Before discharge, physicians should provide parents with information on how to reach them during normal hours, after hours, and on weekends. Parents should be given a follow-up appointment before they leave the hospital. Infants discharged before 24 hours of life should be seen in the office within 48 hours of life.⁹ Those discharged between 24 and 48 hours of life should be seen within 96 hours of life, and those discharged after 48 hours of life should be seen within 120 hours of life.¹⁰

Perinatal Questions

All discharge discussions should include an opportunity for parents to ask questions, and the physician should assure the parents that they can contact the office anytime with serious concerns, and that they should write down non-urgent questions to be addressed at the next office visit.

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