ABM Clinical Protocol #2:
Guidelines for Hospital Discharge
of the Breastfeeding Term Newborn and Mother:

Amy Evans,1,2 Kathleen A. Marinelli,3,4 Julie Scott Taylor,5 and The Academy of Breastfeeding Medicine

A central goal of The Academy of Breastfeeding Medicine is the development of clinical protocols for managing common medical problems that may impact breastfeeding success. These protocols serve only as guidelines for the care of breastfeeding mothers and infants and do not delineate an exclusive course of treatment or serve as standards of medical care. Variations in treatment may be appropriate according to the needs of an individual patient.

Background

The ultimate success of breastfeeding is measured in part by both the duration of and the exclusivity of breastfeeding. Anticipatory attention to the needs of the mother and infant at the time of discharge from the hospital is crucial to ensure successful, long-term breastfeeding. The following principles and practices are recommended for consideration prior to sending a mother and her full-term infant home.

Clinical Guidelines

1. A health professional trained in formal assessment of breastfeeding should perform and document an assessment of breastfeeding effectiveness at least once during the last 8 hours preceding discharge of the mother and infant. Similar assessments should have been performed during the hospitalization, preferably at least once every 8–12 hours. In countries such as Japan, where the hospital stay may last up to a week, assessment should continue until breastfeeding is successfully established and then may decrease in frequency. These should include evaluation of positioning, latch, milk transfer, clinical jaundice, stool color and transition, stool and urine output, and notation of uric acid crystals if present. Infant’s weight and percentage weight loss should be assessed but do not need to be checked frequently. For example, in Australia, infants are weighed at birth and at discharge or on Day 3 of life, whichever comes first. All concerns raised by the mother such as nipple pain, inability to hand express, perception of inadequate supply, and any perceived need to supplement must also be addressed.1–7 (I; II-3; III) (Quality of evidence [levels of evidence I, II-1, II-2, II-3, and III] for each recommendation as defined in the U.S. Preventive Services Task Force Appendix A Task Force Ratings8 is noted in parentheses.) It is important to ask detailed questions—many mothers may not bring up these concerns if not directly questioned.

2. Prior to discharge, anticipation of breastfeeding problems should be assessed based on maternal and/or infant risk factors (Tables 1 and 2). (III) All problems with breastfeeding, whether observed by hospital staff or raised by the mother, should be attended to and documented in the medical record prior to discharge of the mother and infant. This includes prompt recognition and treatment plans for possible ankyloglossia, which can affect latch, lactogenesis, and future breastfeeding.9,10 (An updated clinical protocol is in development.) (I) A plan of action that includes follow-up of the problem after discharge must be in place.11–14 (II-3) If the mother’s and infant’s caregivers are not the same person, there needs to be coordinated communication of any issues between the obstetric and

1University of California San Francisco—Fresno, Fresno, California.
2Center for Breastfeeding Medicine and Mother’s Resource Center at Community Regional Medical Center, Fresno, California.
3Division of Neonatology and Connecticut Human Milk Research Center, Connecticut Children’s Medical Center, Hartford, Connecticut.
4University of Connecticut School of Medicine, Farmington, Connecticut.
5Alpert Medical School of Brown University, Providence, Rhode Island.
### Table 1. Maternal Risk Factors for Lactation Problems

<table>
<thead>
<tr>
<th>Factors</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>History/social</strong></td>
<td></td>
</tr>
<tr>
<td>Primiparity</td>
<td></td>
</tr>
<tr>
<td>Intention to both breastfeed and bottle or formula feed at less than 6 weeks</td>
<td></td>
</tr>
<tr>
<td>Intention to use pacifiers/dummies and/or artificial nipples/teats at less than 6 weeks</td>
<td></td>
</tr>
<tr>
<td>Early intention/necessity to return to school or work</td>
<td></td>
</tr>
<tr>
<td>History of previous breastfeeding problems or breastfed infant with slow weight gain</td>
<td></td>
</tr>
<tr>
<td>History of infertility</td>
<td></td>
</tr>
<tr>
<td>Conception by assisted reproductive technology</td>
<td></td>
</tr>
<tr>
<td>Significant medical problems (e.g., untreated hypothyroidism, diabetes, cystic fibrosis, polycystic ovaries)</td>
<td></td>
</tr>
<tr>
<td>Extremes of maternal age (e.g., adolescent mother or older than 40 years)</td>
<td></td>
</tr>
<tr>
<td>Psychosocial problems (e.g., depression, anxiety, lack of social support for breastfeeding)</td>
<td></td>
</tr>
<tr>
<td>Prolonged labor</td>
<td></td>
</tr>
<tr>
<td>Long induction or augmentation of labor</td>
<td></td>
</tr>
<tr>
<td>Use of medications during labor (benzodiazepines, morphine, or others that can cause drowsiness in the newborn)</td>
<td></td>
</tr>
<tr>
<td>Peripartum complications (e.g., postpartum hemorrhage, hypertension, infection)</td>
<td></td>
</tr>
<tr>
<td>Intended use of hormonal contraceptives before breastfeeding is well established (6 weeks)</td>
<td></td>
</tr>
<tr>
<td>Perceived inadequate milk supply</td>
<td></td>
</tr>
<tr>
<td>Maternal medication use (inappropriate advice about compatibility with breastfeeding is common)</td>
<td></td>
</tr>
<tr>
<td><strong>Anatomic/physiologic</strong></td>
<td></td>
</tr>
<tr>
<td>Lack of noticeable breast enlargement during puberty or pregnancy</td>
<td></td>
</tr>
<tr>
<td>Flat, inverted, or very large nipples</td>
<td></td>
</tr>
<tr>
<td>Variation in breast appearance (marked asymmetry, hypoplastic, tubular)</td>
<td></td>
</tr>
<tr>
<td>Any previous breast surgery, including cosmetic procedures (important to ask—not always obvious on exam)</td>
<td></td>
</tr>
<tr>
<td>Previous breast abscess</td>
<td></td>
</tr>
<tr>
<td>Maternal obesity (body mass index (\geq 30) kg/m(^2))</td>
<td></td>
</tr>
<tr>
<td>Extremely or persistently sore nipples</td>
<td></td>
</tr>
<tr>
<td>Failure of “secretory activation” lactogenesis II. (Milk did not noticeably “come in” by 72 hours postpartum. This may be difficult to evaluate if mother and infant are discharged from the hospital in the first 24–48 hours postpartum.)</td>
<td></td>
</tr>
<tr>
<td>Mother unable to hand-express colostrum</td>
<td></td>
</tr>
<tr>
<td>Need for breastfeeding aids or appliances (such as nipple shields, breast pumps, or supplemental nursing systems) at the time of hospital discharge</td>
<td></td>
</tr>
</tbody>
</table>

Adapted with permission from Neifert\(^{51,p.285}\) and the *Breastfeeding Handbook for Physicians*\(^{2,p.90}\) (III)

### Table 2. Infant Risk Factors for Lactation Problems

<table>
<thead>
<tr>
<th>Factors</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Medical/anatomic/physiologic</strong></td>
<td></td>
</tr>
<tr>
<td>Low birth weight or premature (＜37 weeks)</td>
<td></td>
</tr>
<tr>
<td>Multiples</td>
<td></td>
</tr>
<tr>
<td>Difficulty in latching on to one or both breasts</td>
<td></td>
</tr>
<tr>
<td>Ineffective or unsustained suckling</td>
<td></td>
</tr>
<tr>
<td>Oral anatomic abnormalities (e.g., cleft lip/palate, macroglossia, micrognathia, tight frenulum/ankyloglossia with trained medical assessment)</td>
<td></td>
</tr>
<tr>
<td>Medical problems (e.g., hypoglycemia, infection, jaundice, respiratory distress)</td>
<td></td>
</tr>
<tr>
<td>Neurologic problems (e.g., genetic syndromes, hypertension, hypotonia)</td>
<td></td>
</tr>
<tr>
<td>Persistently sleepy infant</td>
<td></td>
</tr>
<tr>
<td>Excessive infant weight loss (＞7–10% of birth weight in the first 48 hours)</td>
<td></td>
</tr>
<tr>
<td><strong>Environmental</strong></td>
<td></td>
</tr>
<tr>
<td>Mother–infant separation</td>
<td></td>
</tr>
<tr>
<td>Breast pump dependency</td>
<td></td>
</tr>
<tr>
<td>Formula supplementation</td>
<td></td>
</tr>
<tr>
<td>Effective breastfeeding not established by hospital discharge</td>
<td></td>
</tr>
<tr>
<td>Discharge from the hospital at ＜48 hours of age(^{50})</td>
<td></td>
</tr>
<tr>
<td>Early pacifier use</td>
<td></td>
</tr>
</tbody>
</table>

Adapted with permission from Neifert\(^{51,p.285}\) and the *Breastfeeding Handbook for Physicians*\(^{2,p.91}\) (III)
pediatric providers for optimal follow-up care (see Guideline #10).

3. Physicians, midwives, nurses, and all other staff should encourage the mother to breastfeed exclusively for the first 6 months of the infant’s life and to continue breastfeeding through at least the first year and preferably to 2 years of life and beyond.3,15,16 (III)

This is the recommendation of the World Health Organization, as well as organizations from many individual countries such as the National Health and Medical Research Council in Australia.17 The Joint Commission, an organization that accredits hospitals and health care institutions in the United States and globally, is now mandating documentation of exclusive breastfeeding rates as part of its accreditation process for hospitals and birthing centers in the United States. The U.S. Centers for Disease Control and Prevention has similar recommendations.14,18–21 (III)

The addition of appropriate complementary food should occur at 6 months of life.22 (I) Mothers benefit from education about the rationale for and practical advice on exclusive breastfeeding. The medical, psychosocial, and societal benefits for both mother and infant and why artificial milk supplementation is discouraged should be emphasized. Such education is a standard component of anticipatory guidance that addresses individual beliefs and practices in a culturally sensitive manner.23–25 Special counseling is needed for those mothers planning to return to outside employment or school (see Guideline #7).26 (II-2)

4. Families will benefit from appropriate, noncommercial educational materials on breastfeeding (as well as on other aspects of child health care).27 (I) Discharge packs containing infant formula, pacifiers, commercial advertising materials specifically referring to infant formula and foods, and any materials not appropriate for a breastfeeding mother and infant should not be distributed. These products may encourage poor breastfeeding practices, which may lead to premature weaning.27

5. Breastfeeding mothers and appropriate others (fathers, partners, grandparents, support persons, etc.) will benefit from simplified anticipatory guidance prior to discharge regarding key issues in the immediate future. (I) Care must be given not to overload mothers. Specific information should be provided in written form to all parents regarding:

- Prevention and management of engorgement
- Interpretation of infant cues and feeding “on cue”
- Indicators of adequate intake (evacuation of all meconium stools, three to four stools per day by Day 4, transitioning to yellow bowel movements by Day 5, at least five to six urinations per day by Day 5, and regaining birth weight by Day 10–14 at the latest)
- Signs of excessive jaundice4,28 (III)
- Sleep patterns of newborns, including safe co-sleeping practices29 (III)
- Maternal medication, cigarette, and alcohol use
- Individual feeding patterns, including normality of evening cluster feedings

6. Every breastfeeding mother should receive instruction on the technique of expressing milk by hand (whether or not she uses a pump) so she is able to alleviate engorgement, increase her milk supply, maintain her milk supply, and obtain milk for feeding to the infant should she and the infant be separated or if the infant is unable to feed directly from the breast.35–37 (II-1)

7. Every breastfeeding mother should be provided with the names and phone numbers of individuals and medical services that can provide advice, counseling, and health assessments related to breastfeeding, ideally on a 24-hour-a-day basis.1,3 (I)

8. Every breastfeeding mother should be provided with lists of various local peer support groups and services (e.g., mother-to-mother support groups such as La Leche League, Australian Breastfeeding Association, hospital/clinic-based support groups, governmental supported groups [e.g., Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in the United States] with phone numbers, contact names, and addresses. (II-1; III) Mothers should be encouraged to contact and consider joining one of these groups.38–44 (II-3; III)

9. If a mother is planning on returning to school or outside employment soon after delivery, she may benefit from additional information.36,37 (II-1) This should include the need for ongoing social support, possible milk supply issues, expressing and storing milk away from home, the possibility of direct nursing breaks with the infant, and information about any relevant regional and/or national laws regarding accommodations for breastfeeding and milk expression in the workplace. It is prudent to provide her with this information in written form, so that she has resources when the time comes for her to prepare for return to school or work.

10. In countries where hospital discharge is common within 72 hours after birth, appointments for the infant and mother where breastfeeding can be viewed should be made prior to discharge for an office or home visit within 3–5 days of age by a physician, midwife, or a physician-supervised breastfeeding-trained healthcare provider. All infants should be seen within 48–72 hours after discharge; infants discharged before 48 hours of age should be seen within 24–48 hours after discharge.1,3 (III) In countries where discharge is 5–7
days after birth, the infant can be seen several times by the physician prior to discharge. In Japan, where this is the case, the next routine visit is recommended at 2 weeks unless there is a problem. Based on the mother’s choice, her postpartum visit can be scheduled before discharge, or she can be given the information to make the appointment herself once she is settled at home. In many countries this appointment will be with the obstetrician, family physician, or midwife who participated in the birth of her infant. In other countries such as Australia, if she gave birth in a public hospital, it will be with her general practitioner or family practitioner, who did not attend her birth.

11. Additional visits for the mother and the infant are recommended even if discharge occurs at later than 5 days of age, until all clinical issues such as adequate stool and urine output, jaundice, and the infant attaining birth weight by 10–14 days of age are resolved. An infant who is not back to birth weight by the first 10 days of life, but who has demonstrated a steady, appropriate weight gain for several days, is likely fine. This baby needs continued close follow-up but may not need intervention.

Any baby exhibiting a weight loss approaching 7% of birth weight by 5–6 days of life needs to be closely monitored until weight gain is well established. Should 7% or more weight loss be noted after 5–6 days of life, even more concern and careful follow-up must be pursued. These infants require careful assessment. By 4–6 days infants should be gaining weight daily, which makes their percentage weight loss actually more significant when that lack of daily weight gain is taken into account. In addition to attention to these issues, infants with any of these concerns must be specifically evaluated for problems with breastfeeding and milk transfer.1–7 (III)

12. If the mother is medically ready for hospital discharge but the infant is not, every effort should be made to allow the mother to remain in the hospital either as a patient or as a “mother-in-residence” with access to the infant to support exclusive breastfeeding. Maintenance of a 24-hour rooming-in relationship with the infant is optimal during the infant’s extended stay.10,20,43 (II-1)

13. If the mother is discharged from the hospital before the infant is discharged (as in the case of a sick infant), the mother should be encouraged to spend as much time as possible with the infant, to practice skin-to-skin technique and kangaroo care with her infant whenever possible, and to continue regular breastfeeding.45–49 (I; II-2) During periods when the mother is not in the hospital, she should be taught to express and store her milk and to bring it to the hospital for the infant. At the least she should demonstrate successful expression of her milk before hospital discharge. If she has problems with her milk supply, early referral to a lactation consultant and/or a physician skilled in breastfeeding management and medicine is indicated. (III) Milk may be expressed at home and brought in to the hospital for use by the baby. Some countries discourage this practice, but there is no evidence to contradict this recommendation and much evidence to support the use of mother’s milk for these fragile infants.5

Suggestions for Future Research

Although the majority of the clinical recommendations in this policy are firmly evidence-based, areas for future study remain. We know that in some areas of the world, initiation rates are high in the hospital but fall precipitously after hospital discharge. Once mothers and infants receive the best evidence-based information and assistance possible in hospital, what best practices need to be established to ensure that the process of “going home” is a smooth one? What culturally appropriate safety nets of support, help, and advice need to be readily and easily available to them, regardless of where they live and their socioeconomic or educational level? There is much work that can be done in this area to develop and test model policies and plans in action that could then be replicated in similar areas to determine best practices to support exclusive breastfeeding.

A Cochrane Review was done in 200250 looking at the effect of “early discharge” (less than 48–72 hours) on maternal/infant outcomes, including breastfeeding out to 6 months. The results were equivocal, with no differences in sample and control groups, but there was no standardization of definitions or any attempt to quantify teaching in hospital and follow-up on “going home.” This is an area ripe for examination as we try to discern when a dyad is ready for discharge home.5 Finally, if future research deliberately uses the same primary and secondary outcome measures currently described in the literature, then meta-analysis of these data will become possible.49

Acknowledgments

This work was supported in part by a grant from the Maternal and Child Health Bureau, U.S. Department of Health and Human Services.

References


ABM protocols expire 5 years from the date of publication. Evidence-based revisions are made within 5 years or sooner if there are significant changes in the evidence.

Academy of Breastfeeding Medicine Protocol Committee
Kathleen A. Marinelli, MD, FABM, Chairperson
Maya Bunik, MD, MSPH, FABM, Co-Chairperson
Larry Noble, MD, FABM, Translations Chairperson
Nancy Brent, MD
Amy E. Grawey, MD
Alison V. Holmes, MD, MPH, FABM
Ruth A. Lawrence, MD, FABM
Tomoko Seo, MD, FABM
Julie Scott Taylor, MD, MSc, FABM

For correspondence: abm@bfmed.org