



Complete Summary

GUIDELINE TITLE

Breastfeeding the hypotonic infant.

BIBLIOGRAPHIC SOURCE(S)

Thomas J, Marinelli KA, Hennessy M, Academy of Breastfeeding Medicine Protocol Committee. ABM clinical protocol #16: breastfeeding the hypotonic infant. Breastfeed Med 2007 Jun;2(2):112-8. [38 references] [PubMed](#)

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE
METHODOLOGY - including Rating Scheme and Cost Analysis
RECOMMENDATIONS
EVIDENCE SUPPORTING THE RECOMMENDATIONS
BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS
QUALIFYING STATEMENTS
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INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES
IDENTIFYING INFORMATION AND AVAILABILITY
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SCOPE

DISEASE/CONDITION(S)

- Hypotonia ("floppy infant syndrome")
- Infant health/nutrition

GUIDELINE CATEGORY

Counseling
Evaluation
Management
Prevention
Risk Assessment
Screening
Treatment

CLINICAL SPECIALTY

Family Practice
Medical Genetics
Neurology
Nursing
Nutrition
Obstetrics and Gynecology
Pediatrics
Speech-Language Pathology

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Dietitians
Nurses
Physician Assistants
Physicians
Speech-Language Pathologists

GUIDELINE OBJECTIVE(S)

To promote, support, and sustain breastfeeding in children with hypotonia

TARGET POPULATION

Infants with hypotonia

INTERVENTIONS AND PRACTICES CONSIDERED

Evaluation/Counseling

1. Patient education on the benefits of breastfeeding
2. Frequent assessment of baby
 - Ability to latch, suck, and transfer milk; frequency of breastfeeding
 - Adequate milk transfer (test weighing)
 - Hydration status
 - Jaundice
3. Counseling of mother and family about breastfeeding in the early weeks
4. Assessment of maternal milk supply

Management/Treatment

1. Facilitation and assessment of feeding at the breast in the immediate postpartum period
 - Initiation of first feeding
 - Kangaroo (skin-to-skin) care
 - Strategies to facilitate breastfeeding (skin-to-skin, head and body support, sling or pillow, the "Dancer hand" position)
 - Other strategies (hand compression, nipple shield)

- Alternative modes of feeding in baby who is not breastfeeding effectively (cup, spoon, bottle, nipple shield)
 - Supplementation
2. Preventative measures to protect a milk supply
 - Maintenance of lactation (pumping, hand expression)
 - Transitioning from tube or bottle feeding to breastfeeding
 - Breast pumping
 - Completion of a pumping/feeding diary
 3. At discharge and in the neonatal period
 - Maintain mother's milk supply when baby remains hospitalized
 - Provide information on local support groups
 - Encourage maternal rest and analgesics as needed
 - Use of galactogogues
 - Increasing caloric density of breastmilk
 - Use of hindmilk

MAJOR OUTCOMES CONSIDERED

- Ability to breastfeed
- Breastfeeding rates and duration

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

An initial search of relevant published articles written in English in the past 20 years in the fields of medicine, psychiatry, psychology, and basic biological science is undertaken for a particular topic. Once the articles are gathered, the papers are evaluated for scientific accuracy and significance.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Committee)
Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

I Evidence obtained from at least one properly randomized controlled trial

II-1 Evidence obtained from well-designed controlled trials without randomization

II-2 Evidence obtained from well-designed cohort or case-control analytic studies, preferably from more than one center or research group

II-3 Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of the introduction of penicillin treatment in the 1940s) could also be regarded as this type of evidence.

III Opinions of respected authorities, based on clinical experience, descriptive studies and case reports; or reports of expert committees

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

An expert panel is identified and appointed to develop a draft protocol using evidence based methodology. An annotated bibliography (literature review), including salient gaps in the literature, are submitted by the expert panel to the Protocol Committee.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Draft protocol is peer reviewed by individuals outside of lead author/expert panel, including specific review for international applicability. Protocol Committee's sub-group of international experts recommends appropriate international reviewers. Chair (co-chairs) institutes and facilitates process. Reviews submitted to committee Chair (co-chairs).

Draft protocol is submitted to The Academy of Breastfeeding Medicine (ABM) Board for review and approval. Comments for revision will be accepted for three weeks following submission. Chair (co-chairs) and protocol author(s) amends protocol as needed.

Following all revisions, protocol has final review by original author(s) to make final suggestions and ascertain whether to maintain lead authorship.

Final protocol is submitted to the Board of Directors of ABM for approval.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Education

1. All mothers should be educated about the benefits of breastfeeding for themselves and their infants. A significant percentage of hypotonic infants can feed at the breast without difficulty.
2. All babies should be followed closely both before and after discharge from the hospital for assessment of further needs.

Facilitation and Assessment of Feeding at the Breast in the Immediate Postpartum Period

1. The first feeding should be initiated as soon as the baby is stable. There is no reason this cannot occur as early as the delivery room if the baby is physiologically stable.
2. Kangaroo (skin-to-skin) care should be strongly encouraged. If the baby does not feed well, the touching may be stimulating, so that the baby is easier to arouse for feedings. Skin-to-skin care has also been shown to help increase mother's milk supply (Hurst et al., 1997), and it can assist with bonding, which may be especially important for these families.
3. Assess the baby's ability to latch, suck, and transfer milk. This assessment should involve personnel specifically trained in breastfeeding evaluation and management.
4. Skin-to-skin contact will facilitate frequent attempts at breast. For those attempts, particular attention should be given to providing good head and body support since the baby needs to spend effort sucking, not supporting body position. Use of a sling or pillows to support the infant in a flexed position allows the mother to use her hands to support both her breast and the infant's jaw simultaneously.
5. The "Dancer hand" position (see Figure 1 in the original guideline document) may be helpful to the mother to try because it supports both her breast and her baby's chin and jaw while the baby is nursing. This involves cupping her

- breast in the palm of her hand (holding her breast from below), with the third, fourth, and fifth fingers curling up towards the side of her breast to support it, while simultaneously allowing the baby's chin to rest on the web space between her thumb and index finger (see Figure 1 in the original guideline document). The thumb and index finger can then give gentle pressure to the masseter muscle, which stabilizes the jaw (McBride & Danner, 1987; Danner, 1992). Additionally, pulling the jaw slightly forward may allow the infant to better grasp the breast and form a seal. The other hand is free to be used to support the baby's neck and shoulders.
6. Other strategies to help the infant latch and transfer milk may also be effective. Some mothers facilitate milk transfer with the technique of breastfeeding used in conjunction with hand compression. Instead of placing the thumb and index finger on the baby's jaw for support (Dancer position), the fingers are kept proximal to the areola, and milk is hand expressed as the baby suckles. A thin silicon nipple shield may be useful, if production is generous (>500 mL/day) and mothers learn how to keep the reservoir filled by synchronizing breastfeeding with hand compression or using a nursing supplementation device simultaneously inside the shield (Meier et al., 2000). By making the mother aware of various techniques, aids, and ideas, she is empowered to experiment and discover the best repertoire to fit her and her baby's individual needs.
 7. The mother, and family who is supporting her, should be counseled that more time may be necessary in the early weeks to complete a feeding. They should also know that in many cases the baby's ability to feed will improve over the first weeks to months.
 8. Trained personnel must reassess the baby frequently (a minimum of once every 8 hours) because these babies must be considered high (breastfeeding) risk, similarly to the near-term baby (see Academy of Breastfeeding Medicine Protocol #10: Breastfeeding the Near-Term Baby) (Academy of Breastfeeding Medicine, 2004). Encourage frequent nursing throughout the day as the ability to sustain suck may be impaired. Infants should go to breast as often as possible, aiming for at least 8 to 12 times per 24 hours. Prolonged periods of skin-to-skin contact will facilitate these frequent attempts at breast. Assessments should include state of hydration and jaundice, as possible complications of poor intake.
 9. Once transitional milk is present, test weighing with an appropriate digital scale may be an option to judge adequate milk transfer. Infants are weighed immediately prior to the feed on an electronic scale with accuracy at minimum ± 5 g, and then reweighed immediately after the feed with the exact same diaper, clothing, blankets, etc. worn during the prefeed weight. Intake during the feed is reflected by weight gain, 1 g = 1 mL. Term infants with Down syndrome gain weight more slowly than normal full-term infants (Cronk et al., 1988), so this must be taken into consideration during the early weeks and months. Growth charts specific for Down syndrome are found at <http://www.growthcharts.com/charts/DS/charts.htm> (last accessed Jan 21, 2007).
 10. Consider alternative modes of feeding if the baby is unable to nurse at the breast or sustain adequate suckling, including the use of a cup (Marinelli, Burke, & Dodd, 2001), a spoon, or a wide-based silicone bottle. The use of a nursing supplementation aid alone (without a nipple shield) may not be as helpful, as it works best with a baby who has an effective latch, the lack of which is often one of the significant problems of hypotonic infants.

11. If supplementation is necessary, please see Academy of Breastfeeding Medicine Protocol #3: Hospital Guidelines for the Use of Supplementary Feedings in the Healthy Term Breastfed Infant (Academy of Breastfeeding Medicine, 2002). If the baby is attempting to suckle, following each breastfeeding encounter with breastmilk expression (see below), followed by spoon or cup feeding of the expressed milk to the baby, provides more stimulation to the breasts and more milk to the baby.

Preventative Measures to Protect a Milk Supply

1. If the infant is unable to successfully and fully breastfeed, or if the mother is separated from her infant (e.g., neonatal intensive care unit admission), lactation must be initiated and/or maintained through pumping or hand expression. Anticipating the initial difficulty a hypotonic infant will likely have with sustaining frequent and effective milk removal, insufficient milk production may be prevented by encouraging mothers to express milk shortly after delivery, ideally within 2 hours (certainly within the first 6 hours as is recommended with preterm mothers) (Hill, Brown, & Harker, 1995), and approximately every 3 hours thereafter. Aim to remove milk at least eight times in a 24-hour period, mimicking the stimulation of a vigorous term breastfeeding baby. Even if the baby shows some ability to go to breast, latch, and transfer milk, the mother will likely need to express or pump extra milk in the early weeks in order to build and maintain her milk supply at the higher level. A plentiful milk supply will enhance letdown for these less vigorous babies, and facilitate their feeding effort.
2. Most of the research on initiating and maintaining milk supply by expressing milk has been done on mothers of preterm infants. The strongest determinant of duration and exclusivity of breastfeeding the preterm infant is the volume of milk produced by the pump-dependent mother, while insufficient milk production is the most common reason for cessation of efforts to provide milk for these infants (Sisk et al., 2006; Killersreiter, et al., 2001; Furman, Minich, & Hack, 2002). As the baby begins to improve with milk transfer, developing rhythms, and showing feeding cues, pumping times can be led by these cues (i.e., breast emptying by expression after each attempt at breast). This pattern should continue until the couplet is reunited and/or the infant is able to sustain successful breastfeeding. It is critical that mothers be instructed on effective pumping, including both the use of a hospital grade electric pump if available and manual expression.
3. Extrapolating from preterm research for guidance in the hypotonic baby, the production of 500 mL/day is commonly cited as the minimum volume enabling premature babies <1500 grams to transition from tube or bottle feeding to successful, exclusive breastfeeding (Meier, 2003). Until studies are done in the hypotonic infant population, this is a minimum volume from which to start, and can be adjusted based on calculations of intake necessary for growth.
4. Simultaneous pumping of both breasts with a hospital-grade pump has been shown to be more effective than single pumping. Recent research suggests manually assisted pumping improves effective emptying and production in pump-dependent women. In contrast to the usual practice of passively depending on the pump to suction milk from the breast, manual techniques, used in conjunction with pumping, enable mothers to enhance emptying by

using their hands for breast compression, massage, and expression (Jones, Dimmock, & Spencer, 2001).

5. A pumping/feeding diary or log, to enable health care providers to track maternal milk supply and intervene when needed, can consist simply of a piece of paper with columns for date, time started pumping, time ended pumping, amount of milk expressed, and comments (such as where pumped, unusual stressors, etc.), or can be ordered or used as a model from various Web sites, including: http://www.cpqcc.org/quality_improvement/qi_toolkits, appendix "O" (last accessed January 21, 2007).

At Discharge and In the Neonatal Period

1. If the baby will remain hospitalized, the mother's milk supply should be assessed daily including pumping frequency, 24-hour milk total, and any signs of breast discomfort. Carefully monitor the baby's weight gain and consider supplementation as necessary.
2. Inform mothers that sucking efficiency frequently continues to improve over the first year, such that the breastfeeding experience may "normalize" and may not continue to require interventions initially necessary for their own infant, for example, supplementation, pumping, more frequent nursing, etc.
3. Provide information about local support groups for breastfeeding and for specific diagnoses such as Down syndrome families. Support and encouragement is particularly important for these mothers and families with the additional patience and time that is sometimes required to breastfeed these infants.
4. Maternal milk supply is affected by ineffective or infrequent pumping/expressing. Although stress, fatigue, and pain are frequently cited as determinants of slow milk supply, recent evidence refutes this (Hill et al., 2005). However, it is not unreasonable to encourage maternal rest and analgesics as needed. Review and optimize breastmilk expression frequency, schedule, and type of pump used, if necessary. A pumping diary/log (see earlier) can be useful.
5. If maternal milk supply does not equal or exceed the infant's needs, or begins to slow despite optimal pumping, the use of galactogogues to enhance maternal milk supply may be considered. Please see Academy of Breastfeeding Medicine Protocol #9: Use of Galactogogues in Initiating or Augmenting Maternal Milk Supply (Academy of Breastfeeding Medicine, 2004).
6. In the presence of significant cardiac, gastrointestinal, or renal complications, it is sometimes necessary to increase the caloric density of breastmilk with extra fat, carbohydrate, or protein. If the mother's milk supply is greater than the baby's needs, a trial of feeding hindmilk (higher fat content, therefore more fat calories), either by expressing some of the foremilk before putting the baby to breast, or if supplements are being used, by pumping off a small volume of milk first (foremilk) and then in a separate container pumping the rest of the milk present (hindmilk) and feeding the baby only the hindmilk.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

[References open in a new window](#)

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence supporting the recommendations is not specifically stated.

The recommendations were based primarily on a comprehensive review of the existing literature. In cases where the literature does not appear conclusive, recommendations were based on the consensus opinion of the group of experts.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Improved breastfeeding outcomes for mothers and hypotonic infants

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

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.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Foreign Language Translations

For information about [availability](#), see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Thomas J, Marinelli KA, Hennessy M, Academy of Breastfeeding Medicine Protocol Committee. ABM clinical protocol #16: breastfeeding the hypotonic infant. Breastfeed Med 2007 Jun;2(2):112-8. [38 references] [PubMed](#)

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2007 Jun

GUIDELINE DEVELOPER(S)

Academy of Breastfeeding Medicine - Professional Association

SOURCE(S) OF FUNDING

Academy of Breastfeeding Medicine

A grant from the Maternal and Child Health Bureau, US Department of Health and Human Services

GUIDELINE COMMITTEE

Academy of Breastfeeding Medicine Protocol Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Committee Members: Caroline J. Chantry MD, *Co-Chairperson*; Cynthia R. Howard, MD, MPH, *Co-Chairperson*; Ruth A. Lawrence, MD; Kathleen A. Marinelli, MD, *Co-Chairperson*; Nancy G. Powers, MD, FABM

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

None to report

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the [Academy of Breastfeeding Medicine Web site](#).

Print copies: Available from the Academy of Breastfeeding Medicine, 140 Huguenot Street, 3rd floor, New Rochelle, New York 10801.

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Procedure for protocol development and approval. Academy of Breastfeeding Medicine. 2007 Mar. 2 p.

Print copies: Available from the Academy of Breastfeeding Medicine, 140 Huguenot Street, 3rd floor, New Rochelle, New York 10801.

A Korean translation of the original guideline document is available from the [Academy of Breastfeeding Medicine Web site](#).

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI Institute on November 15, 2007. The information was verified by the guideline developer on October 31, 2008.

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