BREASTFEEDING

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Key Points

- Breastfeeding and/or provision of human milk is the normal and intended mode of newborn and infant feeding.
- Breastfeeding should be encouraged and supported by health care providers caring for birthing parents and babies in all but a few specific circumstances.

Benefits of Breastfeeding

- Evidence supports breastfeeding as the best source of nutrition for most infants.
- Breastfeeding provides health benefits to both baby (Table 1) and birthing parent (Table 2).

Benefits to Baby

Table 1. Benefits of Human Milk Feeding or Breastfeeding (BF) for Children

Disease/Condition	Advantages

Sudden infant death syndrome (SIDS)	• 40% risk reduction breastfeeding duration 2-4 months • 60% risk reduction breastfeeding duration 4-6 months • 64% risk reduction breastfeeding duration >6 months
Infant mortality (all cause U.S.)	• 19% risk reduction ANY breastfeeding
Neonatal mortality	• 51% risk reduction ANY breastfeeding
Infant mortality (7-365d)	• 26% risk reduction ANY breastfeeding versus never https://www.high-endrolex.com/21
Otitis media	• 33% risk reduction ever/more versus never/less • 43% risk reduction exclusive breastfeeding 6 months versus never
Upper respiratory tract infection (URI)	• 63% risk reduction if exclusive breastfeeding >6 months
Lower respiratory tract infection	• 19% risk reduction exclusive breastfeeding 6 months versus exclusive breastfeeding <4 months
Severe or persistent diarrhea	• 30% risk reduction exclusive breastfeeding 6 months versus exclusive breastfeeding <4 months
Asthma ever, all ages	• 22% risk reduction for longer breastfeeding duration versus shorter
RSV bronchiolitis	• 74% risk reduction for any breastfeeding >4 months
Necrotizing enterocolitis (NEC)	• 77% risk reduction if fed exclusively human milk diet during NICU hospitalization
Atopic dermatitis	• 27% and 42% risk reduction with a negative and positive family history, respectively
Gastroenteritis	• 64% risk reduction with any breastfeeding
Crohn’s disease	• 29% risk reduction any breastfeeding versus never • 80% risk reduction with breastfeeding for 12 months versus 3-6 months
Ulcerative colitis	• 22% risk reduction with any breastfeeding versus never • 79% risk reduction with breastfeeding for 12 months versus 3-6 months
Childhood and adult obesity	• 22-23% risk reduction for any breastfeeding versus never
Celiac disease	• 52% risk reduction with >2 months breastfeeding

Type 1 diabetes	• 57% risk reduction with fully breastfed for 6 months versus never
Type 2 diabetes	• 33 % risk reduction for any breastfeeding versus never
Leukemia (all)	• 11% risk reduction for any breastfeeding versus never • 19% risk reduction 6 months breastfeeding versus <2 months
Leukemia (AML)	• 15% risk reduction with breastfeeding >6 months
Source: Meek JY, Noble L; Section on Breastfeeding. Policy Statement: Breastfeeding and the Use of Human Milk. Pediatrics. 2022 Jul 1;150(1):e2022057988. doi: 10.1542/peds.2022-057988. PMID: 35921640.	

Benefits to Women

Breastfeeding and lactation provides both short-term and long-term benefits to the mother (Table 2).

Table 2. Maternal Benefits of Breastfeeding

Disease/Condition	**Advantages**
Postpartum blood loss/anemia	• Decreased
Postpartum depression	• Decreased risk
Type 2 diabetes	• 32% lower risk with longer breastfeeding duration • Decreased risk (4% to 12%) of developing type 2 diabetes in mothers without a history of gestational diabetes • Decreased risk (30%) of developing type 2 diabetes during the next 15 to 20 years in mothers with gestational diabetes who breastfed >3 months
Rheumatoid arthritis	• Inversely proportional relationship between duration of breastfeeding and risk of developing rheumatoid arthritis
Hypertension	• 11% risk reduction in hypertension with breastfeeding 6-12 months versus never; same risk reduction with cumulative breastfeeding experience of 12 to 23 months
• Hyperlipidemia • Cardiovascular disease • Diabetes	With cumulative breastfeeding experience of 12 to 23 months: • 19% risk reduction in hyperlipidemia • 10% risk reduction in cardiovascular disease • 26% risk reduction in diabetes
Breast cancer (all)	• 28% reduction with exclusive breastfeeding and breastfeeding >12 months
Premenopausal breast cancer	• 14% reduction with any breastfeeding versus none
Postmenopausal breast cancer	• 11% reduction with any breastfeeding versus none

Ovarian cancer	• 30% risk reduction with any breastfeeding versus never • 28% risk reduction with breastfeeding 6-12 months (lifetime) • 37% risk reduction with breastfeeding >12 months (lifetime)
Endometrial cancer	• 11% reduction with any breastfeeding versus never
Thyroid cancer	• 9% reduction with any breastfeeding versus never
Child spacing	• Increased child spacing secondary to lactational amenorrhea (*Note:* Specific conditions must be met for lactational amenorrhea to be a reliable birth control method: the mother must be exclusively breastfeeding day and night and the infant not receiving any supplementation; the infant must be <6 months old; menstruation must be absent)
Source: Meek JY, Noble L; Section on Breastfeeding. Policy Statement: Breastfeeding and the Use of Human Milk. Pediatrics. 2022 Jul 1;150(1):e2022057988. doi: 10.1542/peds.2022-057988. PMID: 35921640.	

- In a large prospective cohort study among Chinese women published in 2017, a history of breastfeeding was associated with approximately a 10% lower risk of CVD in later life. The magnitude of the inverse association was stronger among those with a longer duration of breastfeeding. Each additional 6 months of breastfeeding was associated with a further approximate 3% - 4% lower cardiovascular disease risk. These associations are echoed in other similar studies of European and North American populations but causality has not been firmly established. (Peters et al., 2017)

Hospital Initiatives to Support Breastfeeding

Introduction

- The Baby-Friendly Hospital Initiative (BFHI) is a world-wide effort to improve breastfeeding rates within the hospital setting and community.
  - Launched by the World Health Organization (WHO) and United Nations Children's Fund (UNICEF) in 1991.
  - Outlines steps for protecting, promoting, and supporting breastfeeding.
  - Baby-Friendly USA website provides guidelines and evaluation criteria for BFHI accreditation.
  - Hospitals that practice BFHI steps show improved breastfeeding outcomes.
- Institutions and groups in the United States that endorse breastfeeding and the BFHI include the following:
  - American Academy of Pediatrics (AAP)
  - American Academy of Family Physicians (AAFP)
  - American Congress of Obstetricians and Gynecologists (ACOG)
  - American College of Nurse-Midwives (ACNM)
  - Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN)
  - National Initiative for Children's Healthcare Quality (NICHQ)
  - Centers for Disease Control and Prevention (CDC)
  - White House Committee on Childhood Obesity

Obstetric Care Practices That Support Breastfeeding

Care practices that support breastfeeding can have a significant impact on initiation of breastfeeding and duration of exclusive breastfeeding. Practices that should be supported are skin-to-skin care, rooming in, and

cue-based feeding. Practices that disrupt breastfeeding, such as use of pacifiers and unnecessary formula supplementation, should be avoided.

Skin-to-Skin Care

- All babies benefit from being placed naked on the birthing parent's abdomen or chest shortly after birth, regardless of feeding choice. Babies kept in close contact with the birthing parent during this time of transition (versus being kept under a warmer) are more likely to:
    - Maintain more normal temperature, breathing and heart rate patterns
    - Remain calm and reassured
    - Breastfeed better
        - Delayed bathing of the newborn until 12 hours after birth allows more uninterrupted skin-to-skin contact and has been shown to improve exclusive in-hospital breastfeeding rates.
- See Skin-to-Skin Care for Mothers and Newborn Infants for more details.

Caution postpartum parents about safety when holding their infants while skin-to-skin. Encourage parents to put their infant in a safe sleeping environment when they are feeling sleepy. Providers should be comfortable acknowledging that parents are fatigued in the early days following delivery. Please see the Angels Guideline, Safe Sleep (Modeling Safe Sleep for Infants in Hospitals), for more information.

Rooming In

Allowing birthing parent and infant to share the same room and be together around the clock supports breastfeeding in the following ways:

- Benefits initiation of breastfeeding
- Increases the number of birthing parents who are able to exclusively breastfeed for longer periods of time
- Helps parents learn early cues and signs of hunger
- Helps babies to breastfeed better

Cue-Based Feeding

- Parents should be encouraged to learn their infants' feeding cues.
- Parents learn to feed when infants show signs of readiness/desire for a feeding rather than based on a schedule.
- Most infants will feed on average 8 to 12 times a day after the 2nd day of life.
- Early feeding cues include the following:
    - An awake, alert, quiet state
    - Putting hands to midline or in/near mouth
    - Sucking noises
    - Sticking tongue out
    - Reaching or moving toward the nipple or breast
- Frequent skin-to-skin contact helps facilitate these cues and aid early recognition of newborn pre-feeding behaviors.

Thoughtful Use of Pacifiers and Artificial Nipples

- Parents should postpone using a pacifier in the first 2 to 3 weeks of life while the lactating parent and baby are learning to breastfeed; this is the critical period when milk supply is established.

- Use of pacifiers and artificial nipples while the infant is learning to breastfeed should be avoided for the following reasons:
    - Breastfeeding is a learned behavior and takes practice.
    - Latching to the breast, suckling, and swallowing human milk requires coordination of many muscles and nerves.
    - Sucking on a bottle or pacifier teaches a baby to suck differently. This type of suckling may lead to pain in the nipples and result in difficulty learning to breastfeed.
- A slow-flow nipple should be offered whenever other means of supplementation are not possible. But even then, flow from an artificial nipple is always faster and easier.
- Pacifiers are important when baby is separated from the parents or when undergoing a painful procedure.
- Families are *not* discouraged from using a pacifier after the establishment of effective breastfeeding patterns; using a pacifier may decrease the risk of SIDS.

Supplementation Options and Alternate Feeding Techniques

- Alternatives to use of a bottle to provide supplemental nutrition are available. Use of a supplemental feeding system that can be offered while the infant is at the breast can be beneficial.
- To maintain milk supply, the lactating parent should continue hand expressing/pumping during this time.
- If supplementation is indicated, consult a skilled practitioner to explore options below for one that fits the needs of the infant and family.
    - Syringe feeding can be offered following a breastfeed.
    - Cup feeding or finger feeding (using a feeding tube along the palmar aspect of the finger while infant suckles on the finger)
    - Bottle feeding, using a bottle with a slow-flow nipple and a suck-swallow pacing strategy
- A nipple shield may be beneficial for the lactating parent who has a variation in nipple size or shape (e.g., inverted) and for the late preterm or early term infant.
- For more information on alternative techniques for infant feedings, see “Resources.”

Supplementation Only When Indicated

For infants who require supplementation, options are the following:

- Mother’s own milk (MOM), expressed or pumped (preferred)
- Donor human milk, if available (next best option)
- Formula (last option, least preferred)

Contraindications/Relative Contraindications to Breastfeeding or Human Milk Feedings

Absolute Contraindications to Mother's Own Milk Feedings

- Suspected or confirmed Ebola virus infection
- HIV positive mother
    - Replacement feeding with formula (properly prepared) or pasteurized human donor breast milk eliminates the risk of perinatal HIV transmission due to breastfeeding.
    - If a mother is not on HIV treatment throughout the pregnancy and lactation period or does not have

an undetectable viral load through pregnancy and post-partum months, breastfeeding is NOT recommended to avoid infant HIV transmission.

- **Mothers who were treated for HIV during pregnancy and have no detectable HIV virus in their bloodstream during pregnancy and breastfeeding periods** should be supported, with counseling, in their choice to either utilize alternative milk sources or to breastfeed.
  - While mothers who have undetectable HIV viral loads during pregnancy and breastfeeding have a much lower risk of transmitting HIV to their infants (less than 1%), transmitting HIV to the infant is still possible.
  - It is very important to support mothers' treatment adherence, particularly during breastfeeding. Mothers should stop breastfeeding if their viral load becomes detectable or if they develop mastitis/bleeding in either breast. (Infant Feeding for Individuals with HIV in the United States/NIH)
  - If antiretroviral medications are missed OR mother's viral load becomes detectable she should stop breastfeeding immediately and not resume breastfeeding until instructed by an infectious disease expert that it is safe to resume breastfeeding. During that period she may express and discard her milk to maintain her supply if desired.
  - No woman with HIV should donate her milk to a milk bank or sell it regardless of her therapeutic adherence or viral load status.
- Maternal diagnosis of active untreated brucellosis
  - Treatment must be for 6 weeks continuously prior to using mom's milk
- Maternal human T-lymphocyte virus infection (HTLV 1 or 2)
- Chemotherapy agents, radioactive isotopes, radiation therapy, antimetabolites, antiretroviral medications
- Active herpetic lesions of both nipples
- Infant diagnosis of classic galactosemia
- Active maternal use of drugs of abuse (see "Situations Where Breastfeeding Should Be Discouraged")

Medical Indications for No Direct Breastfeeding but Mother's Own Milk May Be Used

- Active untreated tuberculosis (until the mother has a documented negative sputum and has received 2 weeks of therapy)
- Active varicella infection if there are no lesions on the nipple
- Herpetic lesions on the breast (but none on the nipple)
- Active H1N1 influenza infection (until the mother has received 48 hours of treatment and is 24 hours without fever)

Situational Indications for Human Milk Substitutes

Infant

The use of human milk substitutes for the infant are indicated in the following situations (Table 3). See "Supplementation Only When Indicated" above for preferred substitution options.

Table 3. Situational Indications in the Infant for Human Milk Substitutes

To view a larger image on your device, please click or touch the image.

Indication	Recommendation

Hypoglycemia (after adequate breastfeeding attempts)	• Expressed human milk is encouraged if available. • Provider should discuss with mother risks and benefits of formula supplementation versus intravenous dextrose fluids in the NICU.
Small for gestational age (SGA) or intrauterine growth restriction (IUGR) infant; weight loss >7% at 36 hours or >10% at day of life 3	• Expressed human milk is the first choice for supplemental feeding in addition to breastfeeding. • The provider and lactation consultant should discuss formula choice and supplemental feeding method with mother.
Early Neonatal Jaundice (onset in first 1-7 days of life) • Often called breastfeeding jaundice or lack of feeding jaundice • Jaundice alone is NOT an indication for formula supplementation. When supplementation is required, expressed mom's milk is the optimal choice after direct breastfeeding attempts. If mom has low supply during this period either donor milk (3rd choice when available) or formula (last choice) should be used in small amounts of 10-20ml in addition to breastfeeding sessions. • Feeding with mom's expressed human milk by gavage methods or alternative feeding methods while infant is on intensive phototherapy and cannot directly breastfeed.	Expressed human milk is encouraged after direct breastfeeding attempts.
Moderate-to-severe dehydration (anuria/oliguria, tachycardia, poor skin turgor)	IV fluids in addition to continued breastfeeding is recommended for severe dehydration, when appropriate.
Phenylketonuria or maple syrup urine disease	MOM may be used with modification of maternal diet or in addition to specialized formulas.
Late Neonatal Jaundice (onset after first week of life) • Often referred to as Breastmilk jaundice or Enterohepatic recirculation jaundice • Usually follows a benign course and self-resolves	• Rare to require intervention such as phototherapy or IV hydration; when intervention is required often will resolve as breastfeeding continues; if bilirubin levels remain elevated, consider interrupting human milk enteral feedings for 24hrs which usually breaks the cycle of enterohepatic recirculation – during interrupted feedings a thoughtful discussion between the family and care provider about risks and benefits of IV hydration versus formula supplementation is recommended. • Mother should express in the interim to maintain milk supply.
Separation of mother and infant	Expressed human milk or donor milk is encouraged.
Infant with congenital abnormality affecting feeding/latch ability	Expressed human milk is encouraged.

Mother

Substitutes for human milk are indicated for certain medications and heavy ethanol use.

- Certain medications
  - Most medications are safe. Only a few drugs have been identified that can cause harm to the infant. See the box "How to Determine Safety of Maternal Medications" in "Resources."
- Heavy ethanol use (see "Tobacco, Alcohol, and Narcotic Use" below).

- UAMS offers a physician led breastfeeding medicine consultation service that can help answer questions about concerns related to medical conditions and medications and breastfeeding safety. For clinicians with questions/concerns outside of UAMS system an email can be sent to breastfeedingmedicine@uams.edu to help assess risk and safety of medications and parental milk.

Conditions of the Birthing Parent That Are Not Contraindications to Breastfeeding or the Use of Human Milk

Medical/Other Conditions - These are NOT contraindications to breastfeeding.

- Both the annual influenza vaccination and the COVID-19 vaccination are recommended during pregnancy and lactation.
- Covid-19 or SARS-CoV-2
  - Women infected with SARS-CoV-2, whether symptomatic or not, may breastfeed their infant with appropriate precautions including wearing a mask while feeding and 20 seconds of hand hygiene with soap and water prior to feeding.
  - See CDC recommendations for breastfeeding while infected with SARS-CoV-2 for more information on newborn care during infectious periods.
  - Following SARS CoV-2 vaccination there is passage of both SARS-CoV-2 IgG and SARS-CoV-2 IgA in human milk. There is evidence that the presence of these immunoglobulins enabled viral neutralization of SARS-CoV-2 infectivity. There is no evidence that the infants in these studies produced SARS-CoV-2 IgG following ingestion of human milk. There is evidence that vaccination against SARS-CoV-2 during pregnancy results in measurable infant SARS-CoV-2 IgG levels. (Nicolaidou, et al., 2023). This supports the ACOG and AAP assertion that vaccination during pregnancy is safe and recommended to protect both birthing parent and infant.
- Hepatitis B
- Hepatitis C
  - Women with Hepatitis C (HCV) and bleeding nipples are advised by some experts to avoid feeding the affected milk. There is a lack of convincing evidence for this practice; however, the risk of transmitting Hepatitis C virus when blood is present in human milk should be discussed.
  - A high HCV viral load is more highly associated with vertical transmission than breastfeeding regardless of nipple condition.
- Cytomegalovirus (CMV)
- Herpes not affecting the breast/nipple (Herpetic lesions should be covered and thorough hand hygiene performed prior to skin-to-skin contact with the infant.)
- Mastitis
  - Breastfeeding is encouraged during treatment for mastitis. Infant may continue to breastfeed or drink milk from the affected breast as long as the infant's mouth does not contact purulent drainage.
- Breast abscess (unless the nipple is involved)
- Maternal illness/hospitalization: fever, URI, sore throat, GI infection
- Hyperbilirubinemia
  - Jaundice is not an independent contraindication to human milk feeding. Critical hyperbilirubinemia with risk for needing exchange transfusion is a contraindication to ANY enteral feeding and infant should be made NPO and placed on IV fluids.

- Poor maternal nutrition
- Breast reduction or augmentation (though lactating parent may need special attention/assistance from lactation specialist)
- Nipple piercings (any rings/objects should be removed before breastfeeding or pumping)
- Surgical anesthesia/analgesia
    - Surgical anesthesia provides minimal clinical risk to a breastfed infant though there is an inaccurate widespread belief that a lactating women should “pump and dump” following surgery and anesthesia.
    - The American Society of Anesthesiologists (ASA) published the following statement in 2019. (Excerpted from Statement on Resuming Breastfeeding after Anesthesia of the American Society of Anesthesiologists. A copy of the full text can be obtained from ASA, 1061 American Lane, Schaumburg, Illinois 60173)
    - ASA Recommendations
      The following recommendations are suggested for lactating women requiring surgery:
        - All anesthetic and analgesic drugs transfer to (human) milk; however, only small amounts are present and in very low concentrations considered clinically insignificant.
        - Narcotics and/or their metabolites may transfer in slightly higher levels into (human)milk; therefore, steps should be taken to lower narcotic requirements by adding other analgesics when appropriate and avoiding drugs that are more likely to transfer (i.e., have a higher RID).
        - Because pain interferes with successful breastfeeding, (lactating) women should not avoid pain medicines after surgery. Despite an excellent safety record, breastfeeding women who require narcotic pain medicines should always watch the baby closely for signs of sedation: difficult to wake and/or slowed breathing.
        - When possible, spinal or epidural anesthesia consisting of local anesthetic and a long-acting narcotic, should be used for cesarean delivery to reduce overall post-operative pain medication requirements.
        - Patients should resume breastfeeding as soon as possible after surgery because anesthetic drugs appear in such low levels in (human) milk. It is not recommended that patients “pump and dump.”
        - For more information, refer to ASA Statement on Resuming Breastfeeding
- Contrast administration (non-radioactive) for radiographic imaging studies (CT, MRI)
    - Contrast administration (non-radioactive) for radiographic imaging studies such as computed tomography (CT) or magnetic resonance imaging (MRI) is not secreted in (human) milk in clinically relevant amounts and provides no risk to the infant.
        - Only a tiny fraction of a GBCA administered to a lactating woman is excreted into the milk, and only a similarly small portion of the excreted milk is actually absorbed by the infant gut. Moreover, intravenous administration of a GBCA to neonates and infants is considered safe and performed routinely in clinical practice. Given these observations and the fact that even temporary disruption of breast-feeding can be stressful for both (the lactating woman) and infant, a recommendation that breastfeeding be suspended for 24 hours is considered unnecessary. (ACR Practice Parameter for Performing and Interpreting Magnetic Resonance Imaging - revised 2020)

Tobacco, Alcohol, and Narcotic Use

- Tobacco use in any form including e-cigarettes, Juuls or vaping pods is discouraged.
    - Nicotine and second hand smoke exposure in pregnancy and infancy can have significant adverse impact on brain function and increase risk of sudden infant death.
    - Smoking more than 5 cigarettes a day causes significantly elevated levels of nicotine and

breakdown products to pass to baby through milk.
    - Nicotine use during lactation and pregnancy can:
        - Diminish infant suck reflexes and lead to poor weight gain
        - Decrease milk supply (Mothers who use nicotine products have shorter lactation periods.)
        - Decrease/alter protein and fat content in milk
        - Maternal nicotine use during lactation increases the risk of SIDS (while breastfeeding when infant is exposed to non-maternal sources of nicotine is protective).
- Ethanol use
    - Heavy drinking is an indication to avoid breastfeeding.
    - For an occasional drink, recommend pumping/feeding just prior to the drink, then waiting 2 hours before pumping/feeding again. Consuming more than 2 standard alcoholic beverages a day is strongly discouraged.
- Methadone, buprenorphine (Suboxone, Subutex) or other chronic narcotic use under physician supervision
    - All doses of methadone and buprenorphine when taken under direct supervision of a physician are considered safe in breastfeeding.
    - Care should be taken a lactating woman taking other medications along with methadone or buprenorphine such as benzodiazepines as the risk of respiratory drive suppression increases.
    - If infant is already exposed, feeding the birthing parent's own milk may help with withdrawal.
- Limited use of postoperative pain medications
    - All pain medications containing codeine or the medication Tramadol are absolute contraindications. Codeine can undergo ultra-rapid metabolism into morphine and use while breastfeeding has been linked to infant death. Ultra-rapid metabolizers are not easily identifiable thus no lactating woman should take a codeine containing medication while breastfeeding.

Situations Where Breastfeeding Safety Should Be Reviewed

- Breastfeeding should be discouraged if the lactating woman has recently taken (within the last 12 weeks) any illicit or illegal drugs or some psychotropic medications.
    - Illicit or illegal drugs including “heavy” marijuana use (>4x/week)
    - Heavy maternal alcohol use/abuse
    - Amphetamines
    - Benzodiazepines
        - Benzodiazepine family is, as a rule, not ideal for the lactating woman due to relatively long half-lives and active metabolites with equally long half-lives.
        - Shorter acting benzodiazepines are safer in lactation provided the use is short-term or intermittent and the lowest effective dose is used.
    - Abused prescription drugs
    - Psychotropic medications
        - Evaluate separately as with other medications.
        - Consult a lactation specialist.
        - See the box “How to Determine Safety of Maternal Medications” in “Resources.”
    - Cannabis/Marijuana
        - Expert recommendations strongly discourage the continued use of marijuana/cannabis while lactating as THC can be excreted and concentrated in human milk. THC exposure to the fetal or neonatal brain may have permanent harmful effects on the developing brain.
        - Women with a history of, or active use of, marijuana should be informed of the risks

associated with continued use while breastfeeding.
    - If a lactating parent wishes to breastfeed while using THC-containing products, documentation of education about risks and continued use of the lactating parent's milk is a collaborative discussion between provider and family.

"Current evidence indicates that cannabis use both during pregnancy and lactation may adversely affect neurodevelopment, especially during periods of critical brain growth both in the developing fetal brain and during adolescent maturation, with impacts on neuropsychiatric, behavioral and executive functioning." (Jaques et al, 2014)

- For a **Breastfeeding and Lactation Medicine Consultation**, see Resources below.

Intrauterine Drug Exposure and Human Milk

Situations Where Breastfeeding Should Be Supported

- Lactating woman is on methadone or buprenorphine (eg, Suboxone, Subutex) as part of a drug treatment program.
- Lactating woman is on prescribed pain medications and is monitored by a physician.
- If maternal drug use is in question, provide the infant with breast milk until toxicology results are reviewed.

Lactation Management Education

- Hospitals providing education in lactation management have improved breastfeeding rates and better scores on the CDC Scorecard for Maternal Practices in Infant Nutrition and Care (MPINC).
- Several lectures related to lactation support and infant nutrition are available through the University of Arkansas for Medical Sciences (UAMS) LearnOnDemand CME/CE Portal.

Contraception

Table 4. Recommendations on Contraception for Lactating Parents based on the Academy of Breastfeeding Medicine Clinical Protocol #13

Method of Contraception	Effects related to lactation/breastfeeding	Contraindications/Disadvantages	Medical Eligibility Criteria	
			WHO	CDC
Lactational amenorrheic method (LAM)	• None	• Efficacy depends on several factors including number of feedings per day, age of infant and whether or not parent is expressing milk or directly nursing.		
Natural Family Planning • Billings ovulation • Creighton model • Marquette • Symptothermal	• None	• May require long periods of abstinence. • Requires special instruction for use during breastfeeding.		
Barrier methods • Diaphragm • Spermicide • Condoms	• None	• Potential for user error. • Possible allergy. • Some devices require fitting.		

Copper IUD	• No known impact on lactation. • Possible risk of perforation at insertion requiring surgical removal which may necessitate a short interruption in breast/chestfeeding.	• Contraindicated in Wilson's disease and copper allergy. • Small risk of infection, perforation, or expulsion. • Requires provider insertion and removal.	< 48 hours: 1 48 hours-4 weeks: 3 > 4 weeks: 1	< 10 minutes: 1 10 minutes- < 4 weeks: 2 ≥ 4 weeks: 1
Levonorgestrel (LNG) IUD ** • Mirena, 5 years • Skyla, 3 years	• Placed immediately post-partum MAY be associated with shorter duration of breastfeeding (single study). • No adverse effect on breastfeeding when placed >6 weeks postpartum or later.	• Small risk of infection, perforation, or expulsion. • Requires provider insertion and removal.	< 48 hours: 3 48 hours-4 weeks: 3 > 4 weeks: 1	< 10 minutes: 2 10 minutes- < 4 weeks: 2 ≥ 4 weeks: 1
Sterilization • Male (vasectomy) • Female: postpartum, laparoscopic, hysteroscopic	• Male: none • Female: postpartum procedure separates lactating parent and infant and may require use of parental narcotics (it is recommended to avoid procedures in first 1-2 hours to allow skin to skin, initial breastfeeding, etc.).	• Permanent; risk of regret. • Surgical procedure risks. • Cost related to surgery. • Requires surgeon.		
Progestin-only hormonal options** • Injectable (DMPA) every 3 months • Oral daily pills (norethindrone) • Progestin vaginal rings • Implants (etonogestrol)	• Theoretical potential to adversely impact milk supply when started in the early postpartum period prior to establishing a milk supply, but insufficient data to determine risk at this time. • If milk supply decreases with injectable DMPA, it cannot be discontinued or removed.	• Common side effect of irregular bleeding (may be less problematic in breastfeeding parents). • Potential user failure with daily pill. • Progestin side effects include headache, acne, weight gain, bloating, depressed mood. • DMPA may have delayed return to fertility. • Implants/IUDs require provider insertion and removal.	0-6 weeks: 3 6 weeks-6 months: 1 >6 months: 1	< 1 month: 2 ≥ 1 month: 1
Estrogen-containing combined hormonal options • COC pills, daily • Estrogen-containing vaginal ring, monthly • Estrogen-containing transdermal patch, weekly	• Potential for adverse effect on milk supply – risk appears more pronounced with higher estrogen levels than used in contemporary products. • Ideally avoid until lactation/milk supply well established. • If used by a lactating parent, begin lowest possible dose as late as possible into well-established breast/chestfeeding.	• Potential for user failure with daily pills. • Increased risk of blood clots. • Potential for drug interactions. • Multiple medical contraindications (should not be started in the first few weeks post-partum to prevent deep vein thromboses and pulmonary embolism).	0-6 weeks: 4 6 weeks-6 months: 3 >6 months: 2	< 1 month: 3 ≥ 1 month: 2
Emergency Contraceptives • Combined estrogen/progestin pills • Progestin-only pills LNG (plan B) • LNG IUD • Mifepristone (anti-progesterone) • Ulipristal • Copper IUD	• LNG preferred over estrogen-containing options in lactating parents as previously described concerns related to estrogen and milk supply.	• Estrogen containing options cause nausea/vomiting and often require antiemetics. • No data for ulipristal in lactation is currently available; limited data on mifepristone in lactation is available. • See above for Copper IUD.		
Source: Berens P, Labbok M; Academy of Breastfeeding Medicine. ABM Clinical Protocol #13: Contraception During Breastfeeding, Revised 2015. Breastfeed Med. 2015;10(1):3-12. doi:10.1089/bfm.2015.9999.				

** Conclusive research regarding the clinical implications of progestin contraception administration in the early postpartum period is contradictory and insufficient.

Resources

Outpatient lactation and breastfeeding support is available via Epic referral to ACH Breastfeeding Medicine Clinic. Please visit the website for more information and ways to book an appointment.

Breastfeeding and Lactation Medicine Consultation

- Physician led service
- Available for questions in prenatal or postnatal setting regarding compatibility of medications and medical conditions with lactation and likely impact on fetal/infant health
- Also available to assist with low milk supply evaluations, management of mastitis
- Inside UAMS, place a breastfeeding medicine consult.
- Outside of UAMS, email breastfeedingmedicine@uams.edu

Arkansas Breastfeeding Help Line

- Breastfeeding experts are available 24/7.
- For questions, call the Arkansas Breastfeeding Help Line at 501.202.7378 or toll free at 1.844.344.0408.

Medications and Breastfeeding Parents

How to Determine Safety of Maternal Medications

- Any Arkansas medical provider can email the UAMS Breastfeeding and Lactation Medicine physician team at breastfeedingmedicine@uams.edu with questions related to the safety of use of human milk due to parental medications or medical conditions.
- Consult a UAMS facility
    - Consult Breastfeeding medicine for recommendations regarding safety of medications in breastfeeding. Or email your question to breastfeedingmedicine@uams.edu.
- Access the Drugs and Lactation Database (LactMed) online or through a mobile application. This database provides the most current and comprehensive information on possible adverse effects of maternal medications in the nursing infant.
- Call the Infant Risk Center helpline at 1.806.352.2519 (available Monday through Friday, 9 AM to 5 PM). Application available for Infant Risk Center, available on iOs and Android devices, easy to interpret information for general care providers. For more information, see http://www.infantrisk.com.
- Consult the book *Medications and Mother's Milk* (see "References" for complete details).
- Read "The transfer of drugs and other chemicals into human milk" by the AAP Committee on Drugs (see "References" for complete details).

Supplementation Options Alternate Techniques for Infant Feedings

Below are links to educational videos demonstrating alternate techniques for infant feedings.

- International Breastfeeding Centre/Breastfeeding Videos
    - Inserting a lactation aid
    - Not yet latching, finger feed to latch
    - Cup feeding
- How to Teach Hand Expression (for Physicians and Other Professionals)

Breastfeeding Publications and Online Resources

- International Code on Marketing of Breast Milk Substitutes
- The CDC Guide to Breastfeeding Interventions
- Learning to Breastfeed: Getting a Good Latch
- Your Guide to Breastfeeding
- Breastfeeding Telephone Triage and Advice

UAMS Online Learning

For online breastfeeding education courses for health care professionals:

Learn On Demand, UAMS CME/CE Portal for Health Care Professionals

For online patient education on childbirth topics, including breastfeeding:

PatientsLearn

Other Resources

Safe Sleep

Safe Sleep (Modeling Safe Sleep for Infants in Hospitals)

Lactation and Breast/Chestfeeding in the LGBTQ+ population

- Pregnant persons and parents who identify as LGBTQ+ need access to nontraditional lactation support that may be unfamiliar to health care providers. They face barriers in healthcare such as heteronormative definitions of sex, assumptions about gender, therapies that affect fertility and lactation, impacts of induced lactation, co-lactation and terminology related to identity and anatomy.
    - Recognizing and affirming parents/caregivers names, pronouns (hers/she/her, his/he/him, they/theirs/them), and family members are appropriate initial steps in providing affirming care for patients and families identifying as LGBTQ+.
    - Outward appearance may not match gender identity. Do not assume that a female-appearing individual identifies as female, desires fertility or has interest in breast/chestfeeding.
    - Patients may use different words for parenting (mom/mum, Dad/father, parent etc) and also use different words to describe lactation (breastfeeding, human milk feeding, chest feeding, lactation etc). It is respectful of the parent/caregiver to identify terms they prefer to use at the beginning of their visit.
    - Induced lactation in the absence of a pregnancy is an option for parents (co-parent or in adoption) and should be discussed early in the pregnancy as some parents/caregivers may not identify this as a possibility. Inducement of lactation may be difficult and can cause significant mental and physical stress which should be considered. If a parent seeks induction of lactation, consultation with a Breastfeeding Medicine specialist is recommended.
    - Further recommendations regarding care of the LGBTQ+ patients can be located in the Academy of Breastfeeding Medicine Protocol #33.

Baby-Friendly Hospital Initiative Criteria

Global criteria for baby-friendly designation by the BFHI includes adherence to “10 Steps to Successful

Breastfeeding" (Table 5) and "International Code on Marketing of Breast Substitutes" (see "Resources").

10 Steps to Successful Breastfeeding

Table 5. Baby-Friendly Hospital Initiative: 10 Steps to Successful Breastfeeding

To view a larger image on your device, please click or touch the image.

1	Have a written breastfeeding policy that is routinely communicated to all health care staff.
2	Train all health care staff in the skills necessary to implement this policy.
3	Inform all pregnant women about the benefits and management of breastfeeding.
4	Help mothers initiate breastfeeding within one hour of birth.
5	Show mothers how to breastfeed and how to maintain lactation even if they are separated from their infants.
6	Give infants no food or drink other than breast milk, unless medically indicated.
7	Practice rooming in; allow mothers and infants to remain together 24 hours a day.
8	Encourage breastfeeding on demand.
9	Give no pacifiers or artificial nipples to breastfeeding infants.
10	Foster the establishment of breastfeeding support groups; refer mothers to them on discharge from the hospital or birth center.
Source: Information from Protecting, promoting and supporting breastfeeding: the special role of obstetric services. A joint WHO/UNICEF statement. *Int J Gynaecol Obstet.* 1990;31(Suppl 1):171-183.	

International Code on Marketing of Human Milk Substitutes

Table 6. Summary: International Code on Marketing of Human Milk Substitutes

• No advertising of breast milk substitutes directly to the public. • No free samples to mothers. • No promotion of products in health care facilities. • No company-sponsored "mothercraft" nurses to advise mothers. (Mothercraft nurses provide care to newborn infants as well as advice and training on infant care to parents.) • No gifts or personal samples to health workers. • No words or pictures idealizing artificial feeding, including pictures of infants on the products. • Information to health workers should be scientific and factual. • All information on artificial feeding, including the labels, should explain benefits of breastfeeding and costs and hazards associated with artificial feeding. • Unsuitable products, such as condensed milk, should not be promoted for babies. • All products should be of a high quality and take into account the climatic and storage conditions for the country where they are used.
Source: World Health Organization. International Code of Marketing of Breast-milk Substitutes. Geneva, Switzerland: World Health Organization; 1981. Available at https://www.who.int/publications/i/item/9241541601.
For more information, refer to Frequently Asked Questions (updated 2017) at https://www.who.int/publications/i/item/WHO-NMH-NHD-17.1

Implementation and Monitoring

- The code is a recommendation rather than a regulation; therefore, each individual government determines how the code will be monitored and enforced.
- Governments should take action to put into practice the principles and aims of the code as appropriate to each nation's social and legislative framework.
- In the United States the National Alliance for Breastfeeding Advocacy (NABA) monitors compliance and publishes a report on code violations.

Breastfeeding Report Card

- CDC's *Breastfeeding Report Card* provides a compilation of data on breastfeeding practices and supports in all states, the District of Columbia, and Puerto Rico.
- *Data, Trends and Maps* is an interactive tool that provides state-specific data about obesity, nutrition, physical activity, and breastfeeding. Choose "Breastfeeding" as "Indicator Category" to find more state-specific data and view statistics in a variety of formats, including maps, tables, and trend lines.

Skin-to-Skin Care for Mothers and Newborn Infants

Skin-to-Skin Care for Birthing Parents and Newborn Infants

Skin-to-skin care is placing the naked newborn prone on the parent's bare chest immediately after birth or as soon as possible following delivery. This practice was common in the past when babies were not born in hospitals. Now, hospital routines commonly disrupt this early parent-infant contact. Yet early skin-to-skin contact between parents and healthy newborn infants has been shown to benefit both the parent and infant with particular advantage for the birthing parent.

Advantages to Birth Parent and Infant

- Skin-to-skin contact stimulates hormone release in the birth parent. Hormone release does the following:
  - Causes the uterus to contract and reduces postpartum hemorrhage
  - Promotes relaxation
  - Aids in bonding and may lower risk of child abandonment and abuse
- Skin-to-skin contact results in the following positive effects for the infant:
  - Stabilized vital signs, including better temperature regulation
  - Less crying and less hypoglycemia due to excessive energy expenditure
  - Improved bonding
  - Improved initiation of breastfeeding and long-term breastfeeding success

Participation in Skin-to-Skin Care

All parents and their healthy newborn infants should have skin-to-skin care. However, it may be delayed or not initiated for the following infants*:

- Infants who are <34 weeks gestational age
- Infants who weigh <2000 grams
- Infants who are admitted to the neonatal intensive care unit (NICU)
- Infants who are unstable, have respiratory distress, or unexpected anomalies
- Situations where concern about birth parent fatigue/level of consciousness or ability to monitor the infant are in question.

**Note*: Infants within these categories often need immediate resuscitation or intensive care; however, skin-to-skin care in the NICU, otherwise referred to as *kangaroo care*, is encouraged soon after birth and stabilization in most cases.

Care providers monitoring dyads involved in skin-to-skin care should be conscious of safe sleep practices and parent's ability to monitor the condition of their infant. When parent appears fatigued or incapacitated, the infant should be removed from skin-to-skin contact and placed in a safe sleep environment, such as a nearby bassinet. Alternative family members, such as the co-parent/partner/father, also may be encouraged to provide skin-to-skin care as a bonding tool during the times when birth parent needs rest.

Skin-to-Skin FAQs	***Question:***	Which newborns should get early skin-to-skin contact?
	Answer:	All full-term or late preterm newborn infants (more than 34 weeks gestational age) who are vigorous with good respiratory effort and potentially a NICU couplet-care or well-baby admission.
	Question:	Is early skin-to-skin contact only for birth parent who want to breastfeed?
	Answer:	No, skin-to-skin time in the hours after delivery benefits every birth parent-infant dyad, even if the birth parent has elected not to breastfeed.
	Question:	Should sick or distressed babies have skin-to-skin care?
	Answer:	No, those infants should be assessed by a pediatrician or neonatologist. However, once the distress resolves and the pediatrician or neonatologist is comfortable with the infant returning to the parent, then the infant should be placed skin-to-skin as quickly as possible.

- Skin-to-skin care may be initiated immediately after a vaginal or caesarean delivery for all healthy newborns (see "Participation in Skin-to-Skin Care" above). See Table 7 for specific actions to take to prepare the room and the birth parent for immediate skin-to-skin care of the newly born infant. Table 7 also describes how to initiate skin-to-skin care immediately after birth and how to handle routines and procedures to optimize skin-to-skin time.
- For a cesarean section (C-section) delivery, skin-to-skin contact should be initiated as soon as is feasible (Table 7). Unlike vaginal deliveries where skin-to-skin care can be implemented immediately after birth, the timing of skin-to-skin care with C-section deliveries will vary depending upon the situation.

Timing of Skin-to-Skin Care and Initial Breastfeeding

- In some institutions if space permits and parents are agreeable, staff should try to implement skin-to-skin care in the operating room.
- In other institutions this is not practical. In that case skin-to-skin care should be started in the recovery room as soon as the birth parent is stable and alert enough to hold the infant (ideally within 30 minutes of delivery).
- For most infants who are vaginally delivered, the initial feed will occur within 30 to 60 minutes after birth. For infants delivered via C-section, the initial breastfeeding may take as long as 2 hours to accomplish.
- Infants and parents may require specialized attention to accomplish the initial feeding. Accommodations should be made to provide necessary assistance to parents who wish to breastfeed.

Table 7. Skin-to-Skin Care after Delivery

Step	Action
Before the birth	

Preparing the room	• Ensure room temperature is warm (72° to 75°). • Reorganize anesthesia equipment to provide room at head of bed for nursing care and father's presence, if needed. • Prewarm blankets. • Have several infant hats available. • Have bulb suction and resuscitation equipment at hand.
Preparing the mother	• Discuss the concept and importance of skin-to-skin care. • Discuss the role of the father in helping with skin-to-skin care. • Recommend that visitors be limited in the hour after delivery; a quiet, calm room is best for maternal-infant bonding and effective first-time breastfeeding. • Mother should remove bra and wear a blouse or shirt that opens in the front (or a hospital gown worn backwards); what the mother wears may vary depending upon the situation. - If cesarean delivery, arrange draping and arm board placement so the mother's chest is exposed. • Place leads, IV, and monitoring devices to facilitate early skin-to-skin care (e.g. leads on the mother's back, IV in the nondominant arm). • Place blood pressure cuff on the mother's nondominant arm (her preference) or on arm farthest away from the infant warmer.
Immediately after birth	
Initiating care	• Place naked infant prone on the mother's abdomen or chest unless otherwise indicated (see "Participation in Skin-to-Skin Care"). • Position the infant just below and between the mother's breasts. • Alternatively if skin-to-skin care is being performed in the OR, place infant at a somewhat oblique angle between mother's breast with body and legs tucked under one side and face/mouth/nose clear and visible between and somewhat above mother's breasts. • Dry, stimulate, and suction while the baby remains on the mother's chest. • Keep the infant dry and warm. • Cover the infant's back with a prewarmed blanket. • Place a cap on the infant's head to prevent heat loss; replace when it becomes damp. • Allow the infant to remain in uninterrupted skin-to-skin contact at least until the first breastfeeding has been accomplished or as long as desired by the mother.
Routines and procedures	
	• Obtain infant and maternal vital signs while the infant remains in skin-to-skin contact. • Delay obtaining infant's weight until after the first breastfeed unless the mother requests otherwise. • Delay eye care until after the first breastfeed, if possible, while the infant is held skin to skin; the American Academy of Pediatrics (AAP) suggests that eye care be performed within the first hour of life but reasonably can be delayed until after the initial breastfeed. • Defer vitamin K until after the first breastfeeding is accomplished; give no later than the first 6 hours of life. (*Note:* If bleeding is present, involve the NICU; vitamin K may be given sooner.) • Hepatitis B can be deferred up to 6 hours of life; wait until the first breastfeed is accomplished. • Pediatrician examinations can be done while skin-to-skin if absolutely necessary; ideally, these will be deferred until the first breastfeed is accomplished (after the first hour of life). • Bathing should be delayed until at least 8 hours of age or longer as parents desire. Vernix caseosa has beneficial and protective properties for infant's skin and immune health. - *Note:* Infants with HIV should be bathed as soon as possible following birth but may participate in skin-to-skin care otherwise (except for breastfeeding, which is discouraged in the US).
Subsequent skin-to-skin care	

	Encourage frequent skin-to-skin care at 1 to 2 hour intervals during the first week of life with mother and father.

Visitation

Encourage quiet bonding time between infant and parents. If hospital visitation policy allows other guests and visitors, limited visitation of 1-2 hours for visitors per day is encouraged to allow parents and infant time to bond and for breastfeeding behaviors to be established.

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Breastfeeding Assessment Tools

Breastfeeding Assessment Tools

Overview

- Several clinical instruments are available for evaluating and documenting infant breastfeeding behavior.
- Commonly used assessment tools include the LATCH Assessment Tool (1994), Mother-Baby Assessment Tool (1992), the Systematic Assessment of the Infant at Breast (1990), and the Infant Breastfeeding Assessment Tool (1988).
- These tools may be useful for early identification of breastfeeding problems so that appropriate follow-up can be implemented to help address potential issues and obstacles.
- The LAT tool (Lactation Assessment and Comprehensive Intervention Tool) combines the assessment of the breastfeeding dyad including both maternal comfort and infant positioning and latch as well as suggested interventions to improve the infant's ability to successfully latch to the breast.
    - A sample is viewable here.
        - https://www.lctconline.org/storage/lat/LAT_SAMPLE_1.pdf
    - This tool is copyrighted by the Healthy Children Project
        - https://centerforbreastfeeding.org/

These tools track important components of breastfeeding from both the infant's and lactating parent's perspective, such as the following:

Infant

- Readiness to feed and rooting
- Latching onto the nipple
- Sucking pattern

- Audible swallowing

Birthing Parent

- Response to infant feeding cues
- Type of nipple (eg, everted, flat, inverted)
- Presence of soreness and pain in nipple and/or breast
- Ability to hold baby in position for nursing
- Attitude towards breastfeeding

Checklist Examples

Use of a checklist to rate important breastfeeding components can alert physicians and staff to the need for further observation, teaching, or lactation specialist referral. Below are 2 examples of checklists that include important components of breastfeeding. Assessment measures and breastfeeding components assessed will vary based on the checklist used.

Example 1. Assessing How the Infant Latches On

Assessment Measure	Description
Good: Latches on successfully	• Infant's gum line is well-placed over the mother's nipple; tongue is positioned under the areola; both lips create a wide "v" shape. • Jaw movement is visible at the temple and ear area. • Adequate suction is demonstrated by full cheeks without dimpling. • The latch is sustained with rhythmic sucking of about 6 to 7 compressions every 10 seconds.
Fair: Needs help to latch on	• Staff or mother must hold the nipple in the infant's mouth and repeatedly stimulate the infant to suck *or* • Infant takes only the nipple tip and is unable to compress the breast tissue.
None: Doesn't latch on	• Infant is too sleepy or doesn't want to nurse; doesn't latch on

Questions to ask the lactating parent to determine how well the baby latched on (if not directly observed)

- How easy was it for the baby to latch onto the nipple?
- Did it take several tries?
- Did the baby begin sucking on his own or did you have to stimulate him to get him to suck?

Example 2. Assessing the Lactating Parent's Comfort

Pain in the breast or nipple area may negatively impact the milk let-down reflex. Discomfort also can influence willingness to continue breastfeeding.

Assessment Score	Description
2 (comfortable)	• Breast tissue is soft and elastic. • Nipples show no signs of redness, cracking, bleeding, blistering, or bruising. • When asked, the mother will say that nursing is comfortable.

1 (mild discomfort)	• Mother reports mild-to-moderate tenderness. • Elasticity of breasts is decreased when they fill. • Nipples are reddened with small blisters.
0 (severe discomfort)	• Mother reports severe discomfort. • Breasts are engorged, firm, tender with nonelastic tissue. • Nipples are very reddened, cracked, bleeding, or have large blisters or bruises.

Questions to assess the lactating parent's comfort

- Are your nipples tender?
- When breastfeeding, do you experience any pain or discomfort?
- Do your breasts feel full and heavy?

Latch Assessment Tool

The LATCH assessment tool, described by Jensen et al in 1994, is one of several clinical instruments available for evaluating and documenting infant breastfeeding behavior. To use the tool, hospital staff assigns a score of 0, 1, or 2 to the following five components of breastfeeding:

L	How well the infant latches onto the nipple
A	Audible swallowing
T	Type of mother's nipple (eg, everted, flat, inverted)
C	Mother's level of comfort
H	Help the mother needs to hold infant to the breast

Each individual breastfeeding session is scored separately. The best possible total score for a session is 10. If a component scores 0 or the total score is under 6, further observation, teaching, or referral to a lactation specialist may be indicated.

Source: Jensen D, Wallace S, Kelsay P. LATCH: a breastfeeding charting system and documentation tool. *J Obstet Gynecol Neonatal Nurs*. 1994;23(1):27-32

Summary

Breastfeeding assessment tools can help promote successful breastfeeding. Be familiar with the specific tools used at your facility. Not only do these tools help overcome obstacles, they provide support for families by helping facilitate dialogue about breastfeeding.

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This guideline was developed to improve health care access in Arkansas and to aid health care providers in making decisions about appropriate patient care. The needs of the individual patient, resources available, and limitations unique to the institution or type of practice may warrant variations.

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