KPQC Learning Forum

September 2025

ATTENTION
Enrolled Hospitals!

Let us know your name, hospital & EHR system in the chat

Agenda for Today's LF

SHTN Bundle Update

Rapid Response: info, articles & website

October KPQC Conference & other events

KEYNOTE speakers: Kansas Breastfeeding Coalition members!

KPQC
Kansas Perinatal Quality Collaborative

SHTN Bundle updates

Important Dates & Events

ALL Kansas Perinatal Quality Collaborative members:

1. October 28th Virtual Fall Conference

SHTN Bundle sites (Champions, OB Providers, Staff):

1. "Bridges to Wellness" Webinar training series:
   - Session 1: October 14th
   - Session 2: October 21st
2. Data webinar "office hours"
   - Date: TBD
3. In-person CHAMPION Workdays (9am-1pm)
   - "West" November 18th Hays Medical Center
   - "East" December 2nd Lawrence Memorial Hospital

**Registration information to come!*

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Meeting link:

[KPQC Fall 2025 Conference Registration - Kansas Perinatal Quality Collaborative]

Meeting link:

[Meeting Registration - Zoom]

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SHTN Bundle Update

SHTN Protocols

*Send protocols to Kari (even if NOT completed, or “in process”)

POSTBIRTH seats coming available

*magnets- Sent out!

	Policy receive	Policy Reviewed and sent back
Advent Health Shawnee Mission		
AdventHealth South Overland Park		
Amberwell Hiawatha Community Hospital	Yes	Yes
Ascension Via Christi Manhattan		
Amberwell Atchison		
Citizens Medical Center	Yes	Yes
Clay County Medical Center		
Coffey County Hospital		
Coffeyville Regional Medical Center		
Community Healthcare System	Yes	Yes
Gove Regional Medical Center		
Hays Medical Center ("HaysMed")	Yes	Yes
Hospital District #1 of Rice County		
Hutchinson Regional Medical Center	Yes	
Kearny County Hospital	Yes	
Labette Health		
Lawrence Memorial Hospital	Yes	Yes
McPherson County		
Mitchell County Hospital Health System		
Nemaha Valley Community Hospital		
Neosho Memorial Regional Medical Center	Yes	Yes
Newman Regional Health		
Newton Medical Center		
Overland Park Regional		
Pratt Regional Medical Center	Yes	Yes
Republic County Hospital		
Sabetha Community Hospital		
Salina Regional Health Center		
Southwest Medical Center		
Stormont Vail Health	Yes	Yes
Stormont Vail Health Flinthills		
Susan B Allen Memorial Hospital		
University of Kansas Health System- Great Bend		
University of Kansas Health System- Olathe		
University of Kansas Health System- St. Francis		
University of Kansas Health System-KC	Yes	Yes
Wesley Medical Center		
William Newton Hospital		

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SHTN Bundle Update: Data!

Data!

We need data from

Facility
Advent Health Shawnee Mission
AdventHealth South Overland Park
Ascension Via Christi Manhattan
Atchison Hospital Association dba Amberwell Atchison
Coffey County Hospital
Coffeyville Regional Medical Center
Hospital District #1 of Rice County
Kearny County Hospital
Overland Park Regional
Republic County Hospital
Salina Regional Health Center
Southwest Medical Center
Stormont Vail Health Flinthills
Susan B Allen Memorial Hospital
University of Kansas Health System- Great Bend
University of Kansas Health System- Olathe
Wesley Medical Center
William Newton Hospital

Webinar "Office Hours" planned: watch your email for details

Direct TA available!

Michelle Black (SHTN Data): michelle.black@ks.gov

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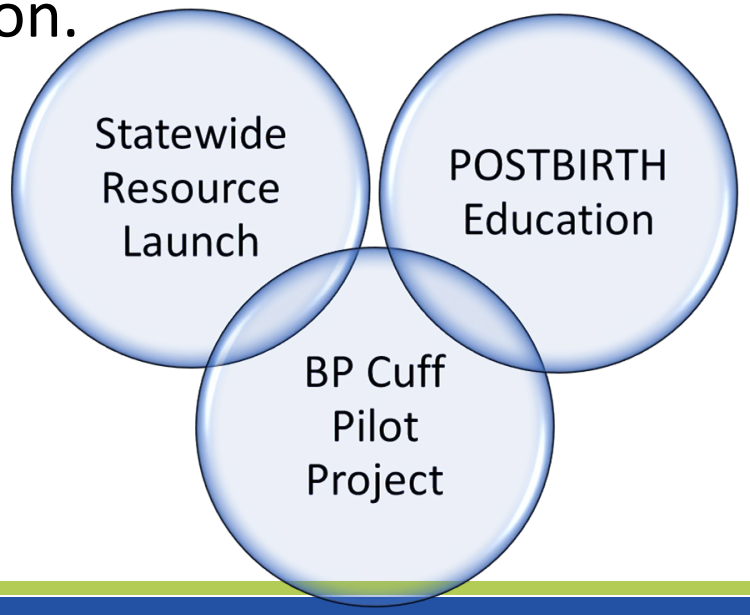
Finally, LAUNCHED!!!

Kansas Cuff Project, a three- tiered plan to:

1. Educate statewide on POSTBIRTH maternal warning signs
2. Launch a pilot project in eight high-risk Kansas counties that will provide free BP cuffs to provider-identified patients **respond by Oct 7th!
3. Launch statewide help for providers to order BP cuffs covered through various payors, working to eliminate barriers to rapid distribution.



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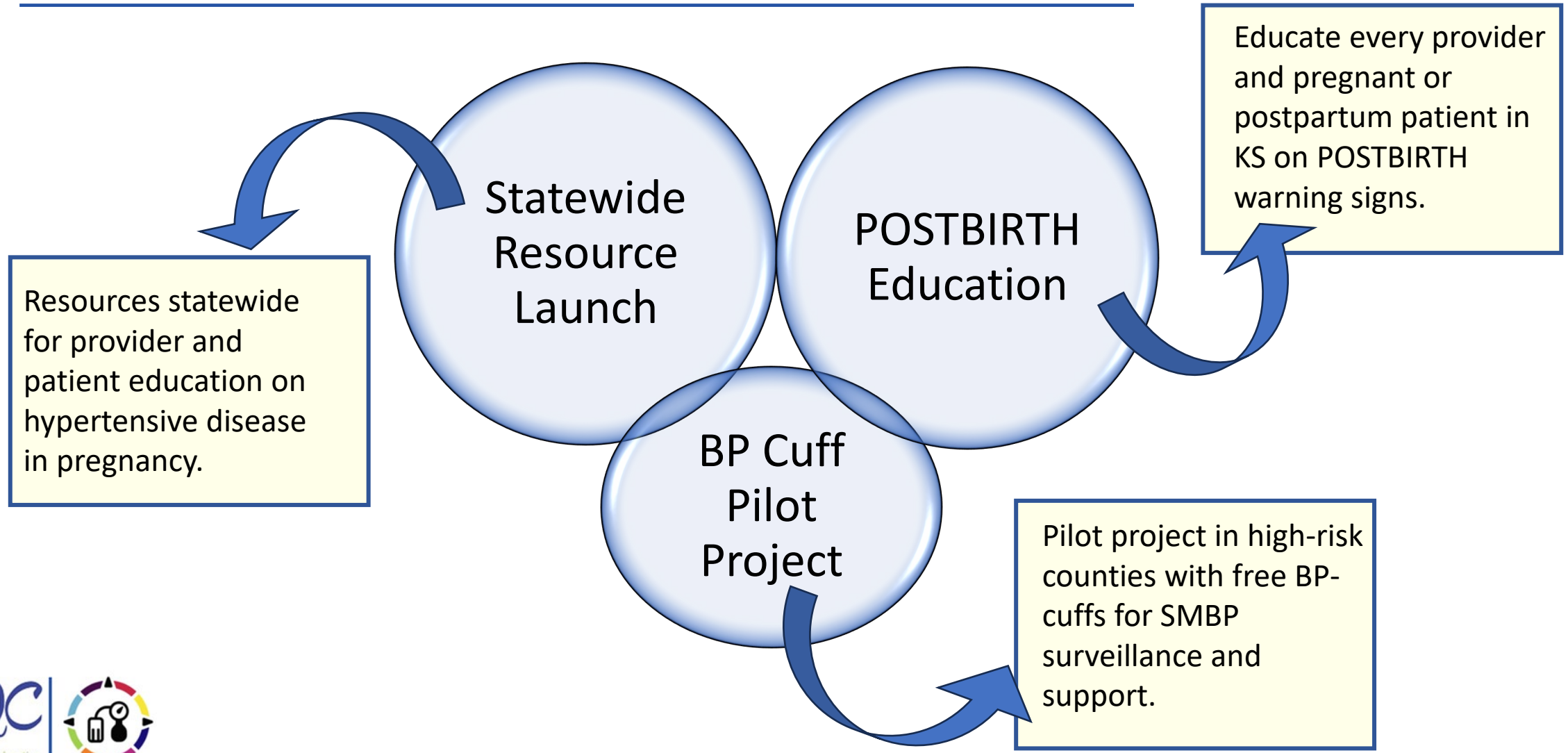
Kansas Cuff Project Launch



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SHTN Bundle Update: Resources

KPQC Website:

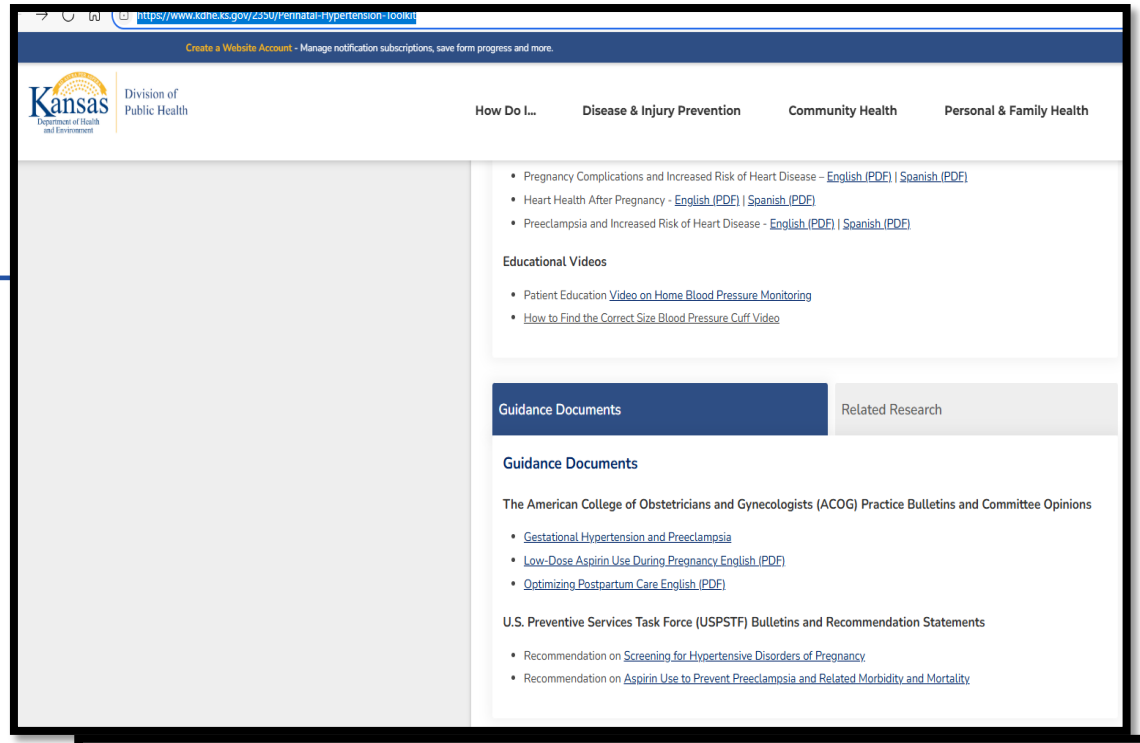
https://kansaspqc.kdhe.ks.gov/resources/severe-hypertension-initiative-resources/#toggle-id-4

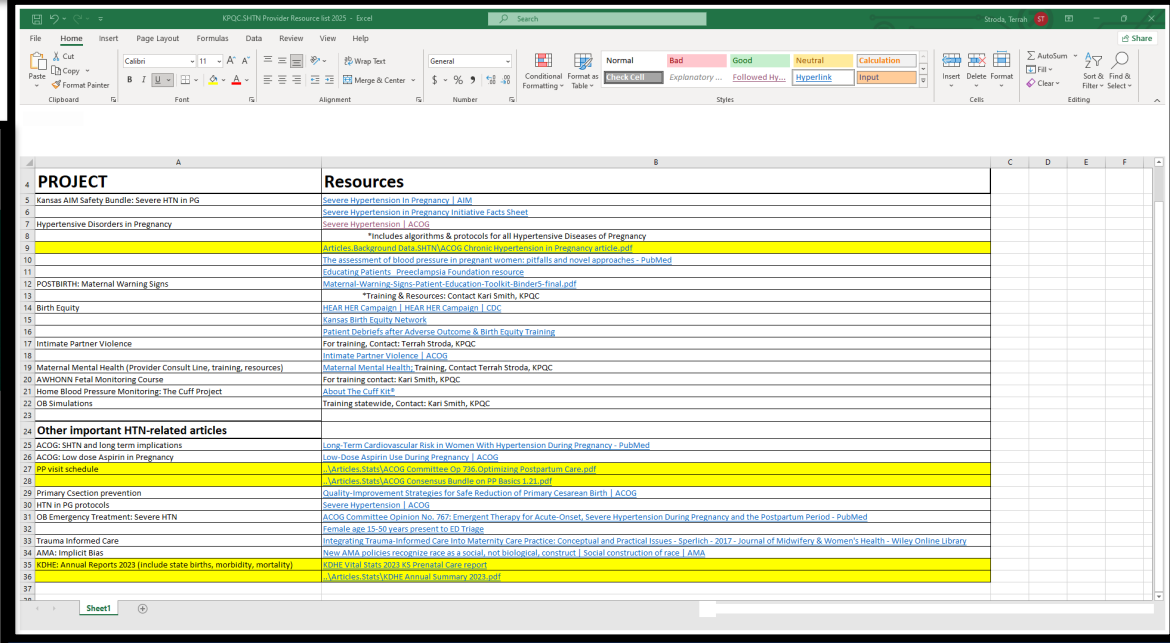
KDHE Website:

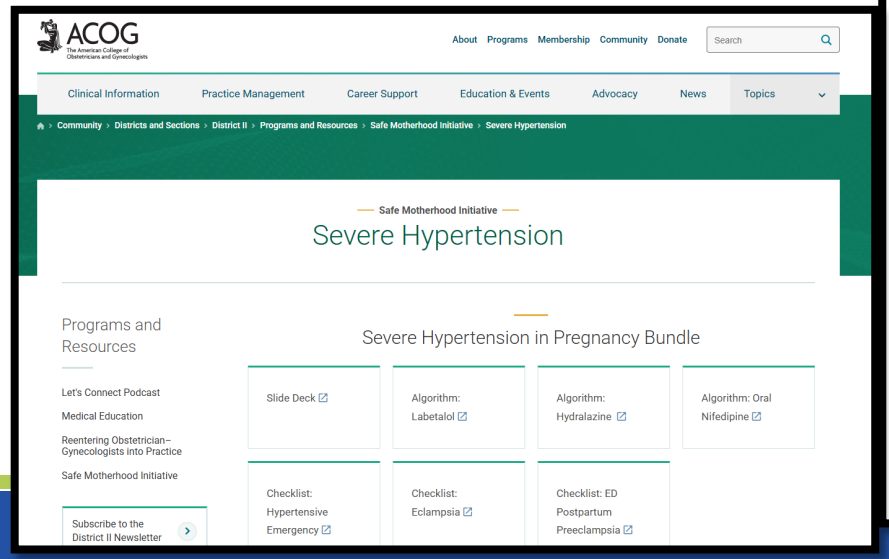
https://www.kdhe.ks.gov/2350/Perinatal-Hypertension-Toolkit

Provider resources & articles (sent!)

https://www.acog.org/community/districts-and-sections/district-ii/programs-and-resources/safe-motherhood-initiative/severe-hypertension







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KPQC: Rapid Response

September 2025

HAYSMED

Maternal, Infant and Immunization Health Symposium 2025

8:30 a.m.–3:45 p.m., Friday, October 3, 2025
HaysMed, Hadley Rooms, 2220 Canterbury Drive, Hays, KS 67601

Joint providership with HaysMed and The University of Kansas Medical Center Continuing Education and Professional Development and Area Health Education Center-West.

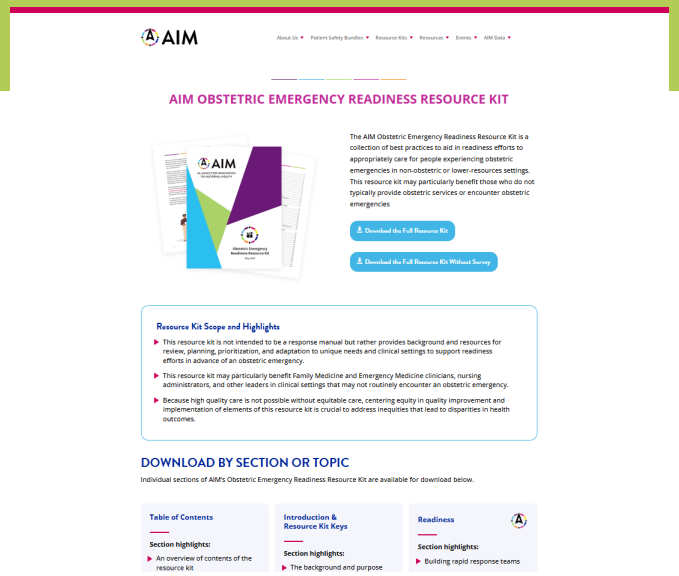
Program overview
This program is designed to improve the care of maternal patients including, but not limited to, updates in regulation and guidelines for immunizations, immunization compliance, paternal support, hypertension in pre and post pregnancy and postnatal collapse and SIDS.

Objectives
Following this program, the participants can be expected to:

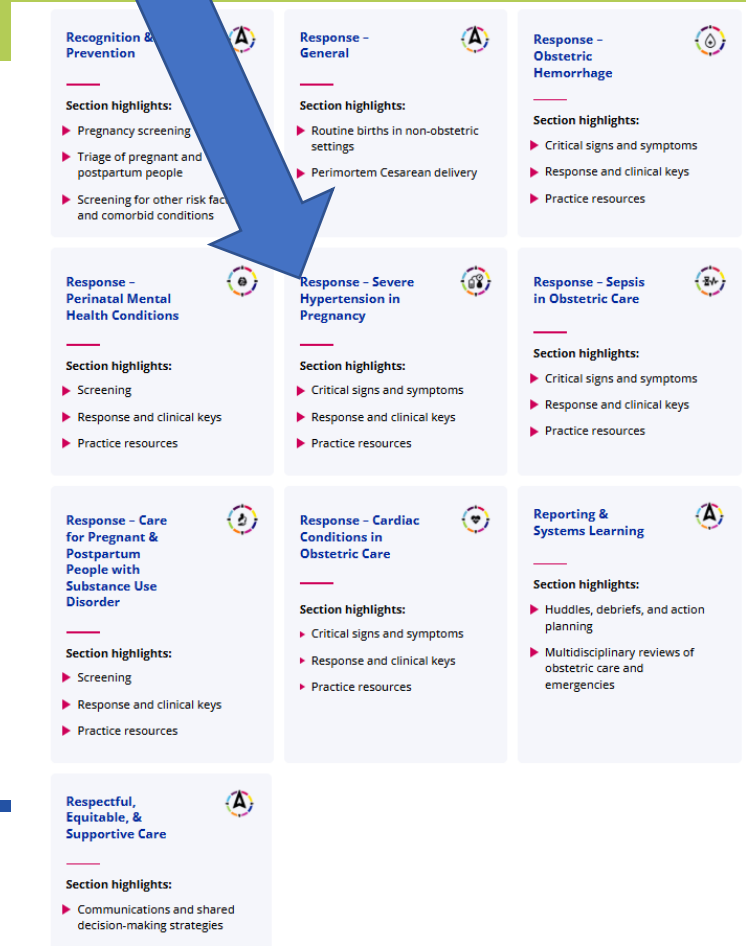
- Address the misinformation on immunizations.
- Explore the difficulties that providers are experiencing in immunization compliance.
- Discuss the importance of paternal support through pregnancy, labor and postpartum.
- Identify the new guidelines in hypertensive care for pregnancy and post-partum.
- Explore updates in sudden unexpected postnatal collapse and sudden infant death syndrome.

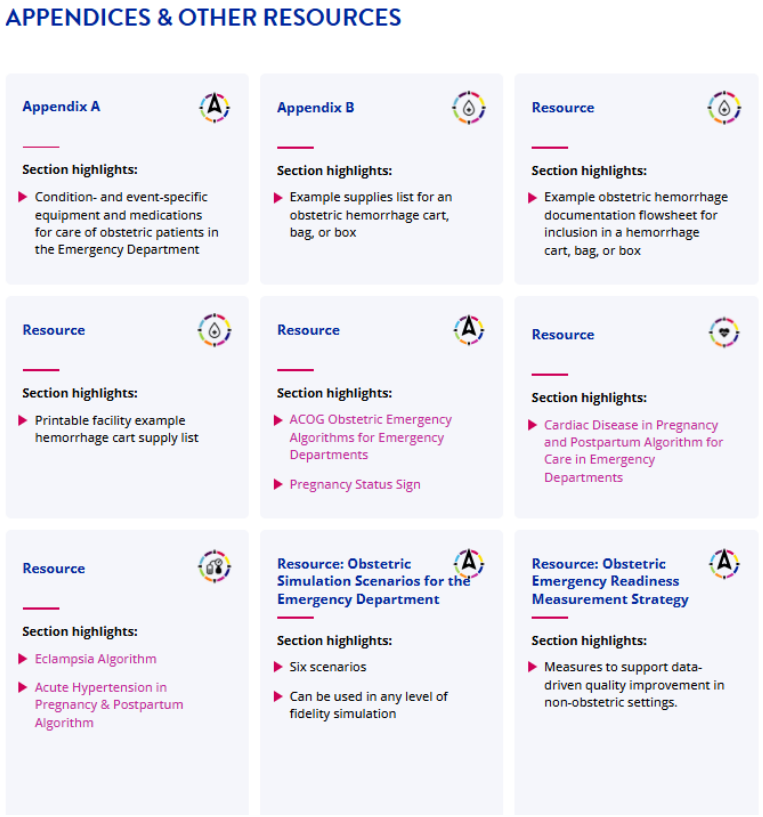
For more information
785-623-5500
haysmed.eeds.com

Registration URL and QR Code
https://www.eeds.com/live/327373



Rapid Response





AIM: OB Emergency Readiness Resource Kit

https://saferbirth.org/aim-obstetric-emergency-readiness-resource-kit/

Rapid Response

AAP Vaccine Update: 2025

AAP-Immunization-Schedule.pdf

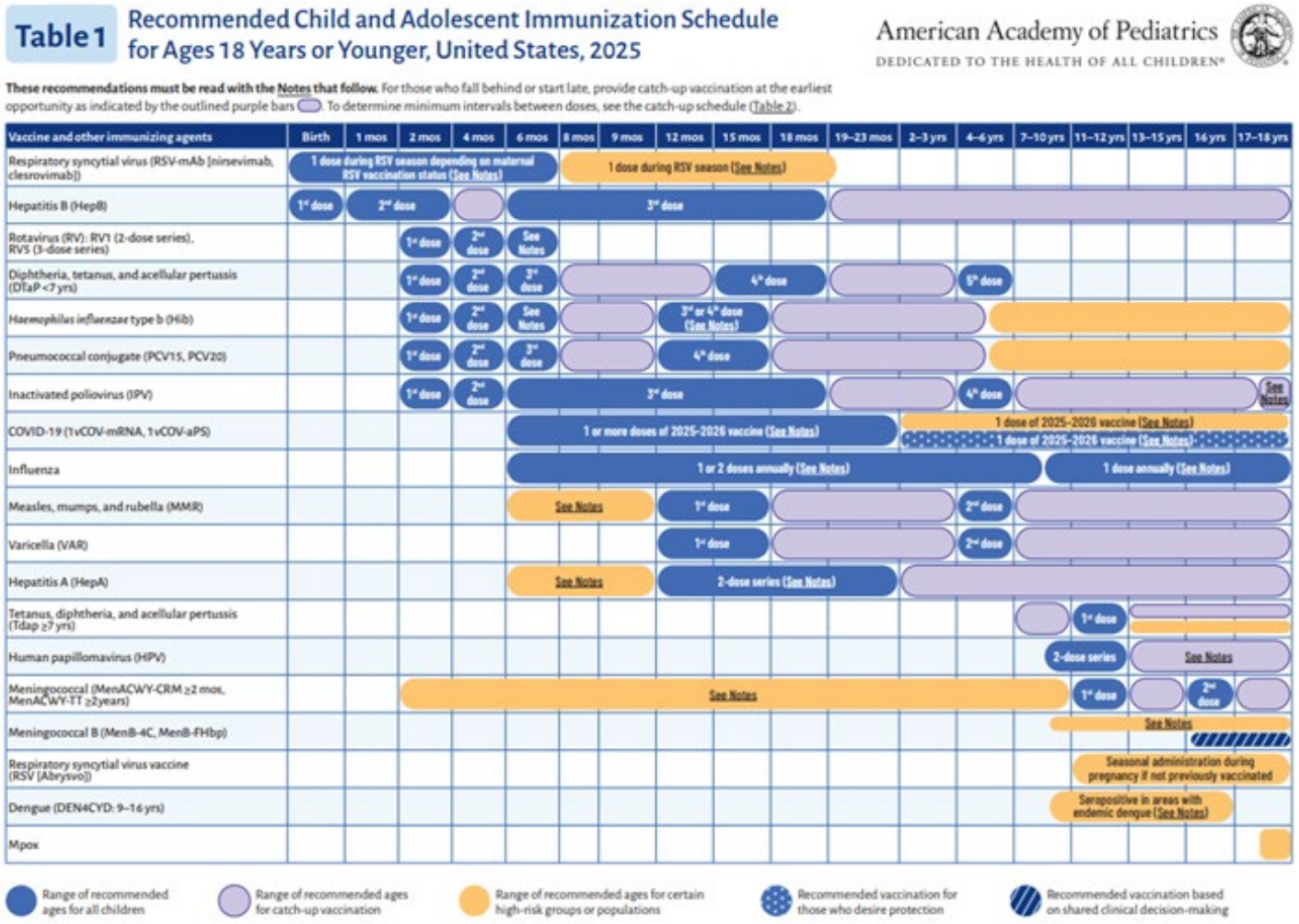


Table 1 Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2025

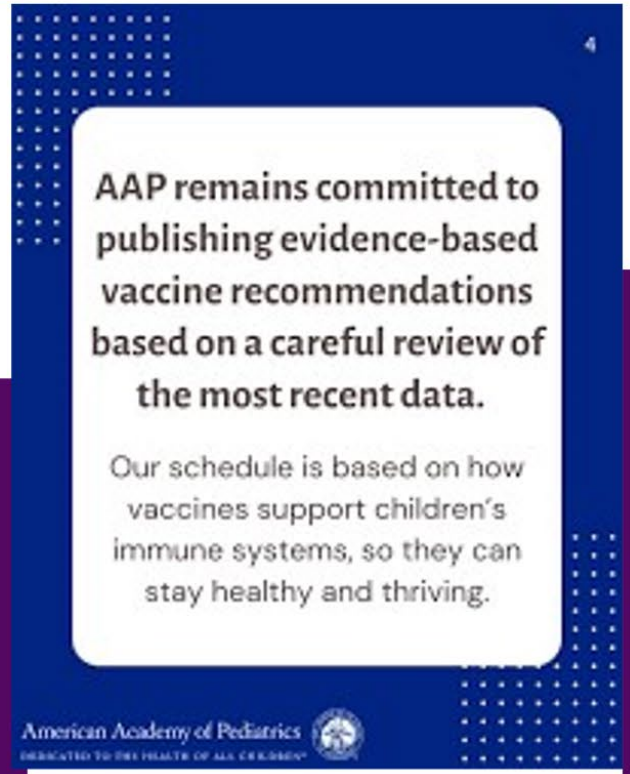
American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN®

These recommendations must be read with the Notes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the outlined purple bars. To determine minimum intervals between doses, see the catch-up schedule (Table 2).

Vaccine and other immunizing agents	Birth	1 mos	2 mos	4 mos	6 mos	8 mos	9 mos	12 mos	15 mos	18 mos	19–23 mos	2–3 yrs	4–6 yrs	7–10 yrs	11–12 yrs	13–15 yrs	16 yrs	17–18 yrs
Respiratory syncytial virus (RSV-mAb [nirsevimab, clesrovimab])	1 dose during RSV season depending on maternal RSV vaccination status (See Notes)					1 dose during RSV season (See Notes)												
Hepatitis B (HepB)	1st dose	2nd dose			3rd dose													
Rotavirus (RV): RV1 (2-dose series), RV5 (3-dose series)			1st dose	2nd dose	See Notes													
Diphtheria, tetanus, and acellular pertussis (DTaP <7 yrs)			1st dose	2nd dose	3rd dose				4th dose				5th dose					
Haemophilus influenzae type b (Hib)			1st dose	2nd dose	See Notes			3rd or 4th dose (See Notes)										
Pneumococcal conjugate (PCV15, PCV20)			1st dose	2nd dose	3rd dose			4th dose										
Inactivated poliovirus (IPV)			1st dose	2nd dose				3rd dose					4th dose					See Notes
COVID-19 (1vCOV-mRNA, 1vCOV-aPS)					1 or more doses of 2025–2026 vaccine (See Notes)							1 dose of 2025–2026 vaccine (See Notes)						
Influenza															1 dose annually (See Notes)			
Measles, mumps, and rubella (MMR)					See Notes			1st dose					2nd dose					
Varicella (VAR)								1st dose					2nd dose					
Hepatitis A (HepA)					See Notes			2-dose series (See Notes)										
Tetanus, diphtheria, and acellular pertussis (Tdap ≥7 yrs)															1st dose			
Human papillomavirus (HPV)														2-dose series		See Notes		
Meningococcal (MenACWY-CRM ≥2 mos, MenACWY-TT ≥2 years)			See Notes												1st dose		2nd dose	
Meningococcal B (MenB-4C, MenB-FHbp)															See Notes			
Respiratory syncytial virus vaccine (RSV [Abrysvo])															Seasonal administration during pregnancy if not previously vaccinated			
Dengue (DEN4CYD: 9–16 yrs)															Seropositive in areas with endemic dengue (See Notes)			
Mpox																		

Range of recommended ages for all children
Range of recommended ages for catch-up vaccination
Range of recommended ages for certain high-risk groups or populations
Recommended vaccination for those who desire protection
Recommended vaccination based on shared clinical decision-making

The Scientific Experts Say:



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Rapid Response

SHTN treatment article

Systematic Reviews ajog.org

Oral antihypertensive treatment during pregnancy: a systematic review and network meta-analysis

Rosalie J. Hup, MD; Johanna A. A. Damen, MSc, PhD; Jonne Terstappen, MD; Mirthe J. Klein Haneveld, MD, MA; Fieke Terstappen, MD, PhD; Laura A. Magee, MD, MSc; A. Titia Lely, MD, PhD; Martine Depmann, MD, PhD

OBJECTIVE: Considering safety and effectiveness of oral antihypertensive agents when treating hypertensive disorders of pregnancy, no preference can be stated between the 3 agents currently available. Therefore, this systematic review and network meta-analysis aims to determine the effects of antenatal treatment with methyldopa, labetalol, or nifedipine for hypertensive disorders of pregnancy regarding maternal or fetal/neonatal morbidity and mortality.

DATA SOURCES: On August 25, 2023, an electronic search in PubMed/Medline, Embase, and CENTRAL was performed.

STUDY ELIGIBILITY CRITERIA: Randomized controlled trials reporting on perinatal outcomes in hypertensive pregnancies treated with oral antihypertensive agents of interest (methyldopa, labetalol, or nifedipine) or placebo/no treatment were identified.

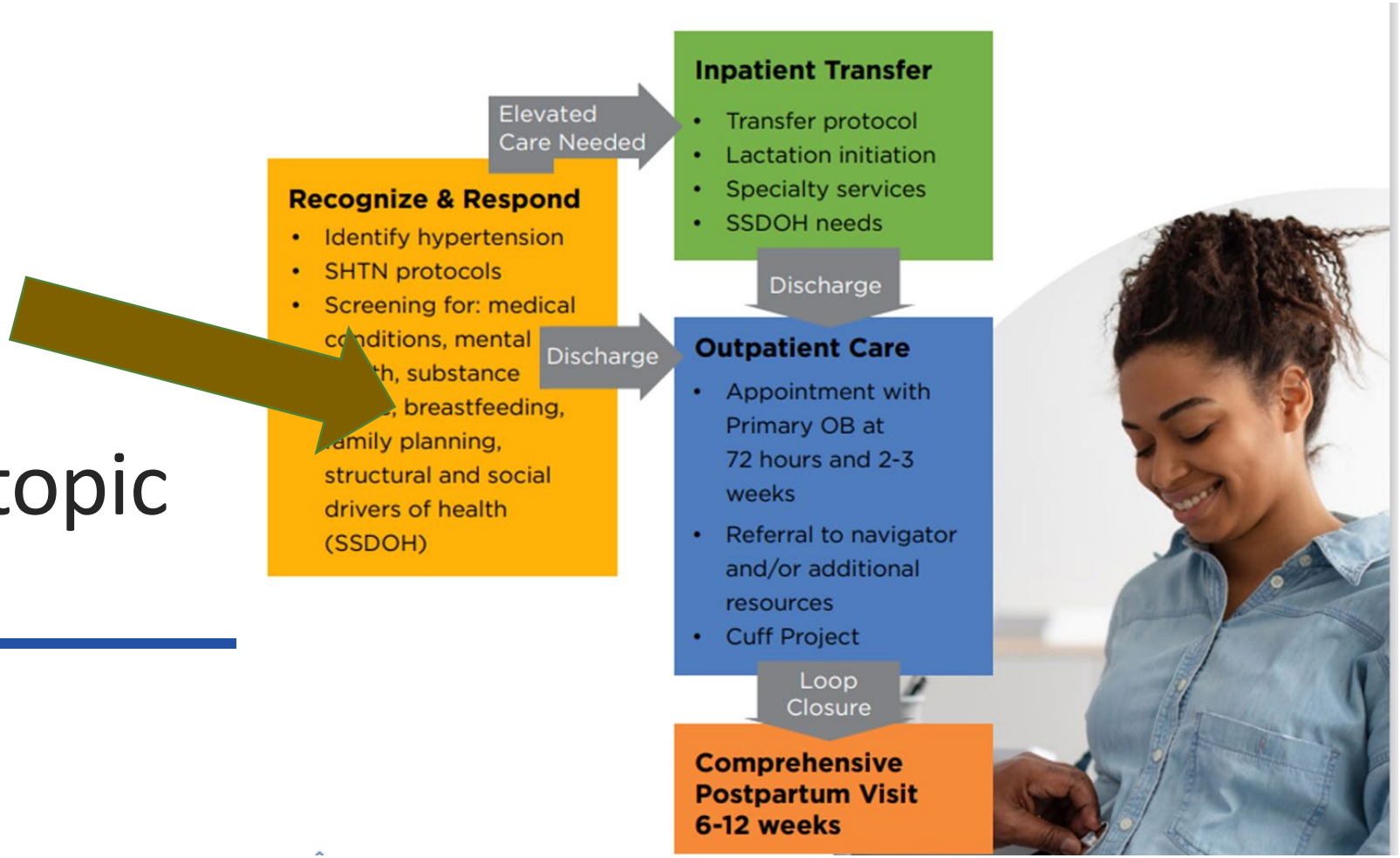
STUDY APPRAISAL AND SYNTHESIS METHODS: Quality assessment was performed using the Cochrane Risk of Bias tool for randomized controlled trials and trustworthiness was assessed with the Trustworthiness in RAndomised Controlled Trials Checklist. Data on our predefined outcomes were extracted and relative risks were calculated in network estimates if possible.

RESULTS: Twenty three trials (3989 women) were included in our network meta-analysis with an overall low-to-moderate quality. Compared to placebo/no treatment, labetalol and methyldopa significantly reduced the incidence of severe hypertension (including 8 studies, relative risk 0.20 [95% confidence interval 0.09–0.48] and 0.44 [0.20–0.99], respectively). In the network meta-analysis, labetalol vs nifedipine was associated with a reduction in preeclampsia (relative risk, 0.50 [0.28–0.87]; 15 studies) and preterm birth (relative risk, 0.68 [0.52–0.90]; 14 studies). No significant differences could be detected for any of the other outcomes of interest.

CONCLUSION: When comparing the oral antihypertensive agents currently available head-to-head, no significant differences in the primary outcome, severe hypertension, could be detected as well as on most of the secondary outcomes of interest. Considering the preference of labetalol over nifedipine regarding the outcomes preeclampsia and preterm birth, a modest favor for labetalol could be stated. Included studies however were of low overall quality warranting caution when interpreting results.

Key words: antihypertensive medication, blood pressure, hypertension, hypertensive disorders of pregnancy, network meta-analysis

KPQC: Today's topic



Breastfeeding, Expressing, Pumping PROTOCOL

Send to Kari! Kari Smith
kari.smith@kansaspqc.org

Stormont Vail Topeka
HaysMed
AdventHealth South Overland Park
UKHS St Francis

Michelle Finn, MS, IBCLC, PMH-C

Michelle is an International Board Certified Lactation Consultant and certified in perinatal mental health. She began supporting breastfeeding families as an accredited La Leche League Leader in 2006 and earned her IBCLC in 2011. Michelle has more than 10 years' experience working in the hospital setting to ensure care practices align with the best evidence.

Michelle currently serves as lactation team lead at the University of Kansas Health System, supporting new parents, educating maternal-child nursing staff and providers, coordinating the human milk depot and collaborating with a team to sustain the facility's High 5 Premier recognition. Her undergraduate degree is in communications and public relations, and she holds a master's in management from Baker University.

Michelle is a past board chair of the Kansas Breastfeeding Coalition and remains involved in the coalition's efforts to create the structural changes needed for new parents to meet their feeding goals. She is a youthful empty-nester, and enjoys music, podcasts, cooking and spending time with her amazing husband and family.

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Dana Deters, RN, BSN, IBCLC, CPST

Dana is a Washburn University graduate. She has worked as a critical access hospital nurse for over 20 years at the Nemaha Valley Community Hospital in Seneca. Since she has worked there, she has cared for patients ranging from newborn to elderly. For over 18 years she has been the OB Supervisor as well.

Dana is an International Board-Certified Lactation Consultant and Child Passenger Seat Technician. She helps moms through the entire pregnancy, ranging from childbirth classes, to delivery, to follow up care in the Breastfeeding Clinic. She is also active in the Kansas Breastfeeding Coalition and is the current Hospital Section Chair.

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Cara Gerhardt, RN, IBCLC

Cara Gerhardt is a registered nurse and International Board-Certified Lactation Consultant. She is the coordinator for High 5 for Mom and Baby, a program that provides resources, recognition, and support to help hospitals and birth centers improve health outcomes for breastfeeding families by promoting ten evidence-based practices that increase breastfeeding success.

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Supporting Lactation in the context of Perinatal Hypertension

Kansas Perinatal Quality Collaborative
September Learning Forum

Michelle Finn, MS, IBCLC, PMH-C
The University of Kansas Health System

Dana Deters, RN, BSN, IBCLC
Nemaha Valley Community Hospital

Cara Gerhardt, BSN, RN, IBCLC
High 5 for Mom & Baby

Kansas Breastfeeding Coalition, Inc.

OVERVIEW

- Importance of breastfeeding for birthing parent and infant, including unique protections for the hypertensive patient
- Evidence-based approaches for supporting the establishment of breastfeeding in patients experiencing hypertensive disorders of pregnancy (HDP)
- Best practices related to antenatal counseling, skin-to-skin, milk expression, storage and handling, medication compatibility, rooming in as well as considerations for the readmitted breastfeeding patient
- Policy and staff education ideas to support lactation in hospital settings
- Applied learning through 3 case studies

Kansas Breastfeeding Coalition, Inc.

INCLUSIVITY

Wherever possible, we've used gender-neutral language in this presentation as the practices described here apply to all birthing individuals.

Gendered terms such as "mother" and "breast" may be used as they align with the language used in the literature we cite and in the guidance from our professional organizations (AAP, ACOG, ABM).

We recognize the diversity of family types and understand such terms may not represent the circumstances or norms of all families. We encourage meaningful conversations with families – especially those with unique circumstances – to ensure a clear understanding of each family's specific wishes, feeding goals and preferred identifiers.

Kansas Breastfeeding Coalition, Inc.

THE BROAD IMPACT OF LACTATION ON MATERNAL HEALTH

BREASTFEEDING = A METABOLIC RESET

Metabolism

- Decrease of:
  - LDL Cholesterol
  - Triglycerides
- Increase of:
  - HDL Cholesterol
  - Lipid Mobilization

Endocrine

- Decreased Risk of:
  - T2DM
  - Metabolic Syndrome
  - HbA1c Levels
  - Postpartum Diabetes

Cardiovascular

- Decreased risk of:
  - Hypertension
  - Coronary Artery Disease
  - Myocardial infarction
  - Atherosclerosis

Cancer

- Decreased Risk of:
  - Breast Cancer
  - Ovarian Cancer
  - Endometrial Cancer

Vascular and Hormonal

- Increase of Oxytocin Levels
- Decrease of:
  - Inflammatory markers
  - Cortisol/stress response
  - Endothelial dysfunction

Long-term Health

- Decreased Risk of:
  - Lifetime Cardiovascular Disease
  - Future heart failure
- Increase of Longevity

Hematologic

- Decreased Risk of:
  - Postpartum Hemorrhage
  - Venous thromboembolism

Weight and Body

- Decrease of:
  - Postpartum Weight
  - Visceral Fat
  - Long-term Obesity Risk
- Increase of Caloric Burning

Villarreal et al (2025)

Kansas Breastfeeding Coalition, Inc.

…AND ON INFANT HEALTH

BREASTFEEDING = BIOLOGICALLY NORMATIVE FEEDING

AAP (2022)

Dose-Response Benefits of Breastfeeding for the Breastfed Infant

Condition	% Lower Risk[a]	Length of Breastfeeding	Comments
Otitis media[1]	23	Any	—
Otitis media[1]	50	≥3 or 6 mo	Exclusive breastfeeding
Recurrent otitis media[2]	77	Exclusive BF ≥6 mo[b]	Compared with breastfeeding 4 to <6 mo[b]
Upper respiratory tract infection[3]	63	>6 mo	Exclusive breastfeeding
Lower respiratory tract infection[1]	72	≥4 mo	Exclusive breastfeeding
Lower respiratory tract infection[2]	77	Exclusive BF ≥6 mo[b]	Compared with breastfeeding 4 to <6 mo[b]
Asthma[1]	40	≥3 mo	Atopic family history
Asthma[1]	26	≥3 mo	No atopic family history
RSV bronchiolitis[4]	74	>4 mo	—
Necrotizing enterocolitis[5]	77	NICU stay	Preterm infants; exclusive human milk
Atopic dermatitis[6]	27	>3 mo	Exclusive breastfeeding; negative family history
Atopic dermatitis[6]	42	>3 mo	Exclusive breastfeeding; positive family history
Gastroenteritis[1,7]	64	Any	—
Inflammatory bowel disease[8]	31	Any	—
Obesity[1]	24	Any	—
Celiac disease[7]	52	>2 mo	Gluten exposure when breastfeeding
Type 1 diabetes[1,10]	30	>3 mo	Exclusive breastfeeding
Type 2 diabetes[1,11]	40	Any	—
Acute lymphocytic leukemia[1,12]	20	>6 mo	—
Acute myelogenous leukemia[1,13]	15	>6 mo	—
SIDS[1]	36	Any >1 mo	—

[a] % lower risk refers to lower risk while BF compared with feeding commercial infant formula or referent group specified.

[b] Referent group is exclusive BF ≥6 months.

HDP & BREASTFEEDING: SCOPE & IMPACT

HDPs affect 16% of pregnancies nationwide but are much more common among Black and Indigenous parents who also face some of the steepest disparities in lactation support.

Beyond peripartum mortality risks, HDP exposure is associated with adverse long-term cardiometabolic outcomes among women and their children.

Breastfeeding is associated with lower long-term risk of maternal cardiometabolic disease, preeclampsia, and both maternal and infant all-cause mortality.

A dose-dependent association has been observed, with longer breastfeeding durations associated with lower cardiometabolic risk for both infants and women, with potential for augmented cardiovascular benefit among those with HDP compared with those without.

Nardella et al (2025)

COMMON LACTATION CHALLENGES
FOR THIS POPULATION

Delayed secretory activation common with preterm birth, cesarean, use of magnesium sulfate, separation of the dyad for medical intervention

Those with HDP often have comorbidities that are associated with delayed transition to mature milk and/or lower milk supply -- such as obesity or insulin resistance

Lack of supportive hospital practice, lack of timely referrals to skilled lactation care and/or misinformation about medication compatibility

Nardella et al (2025)

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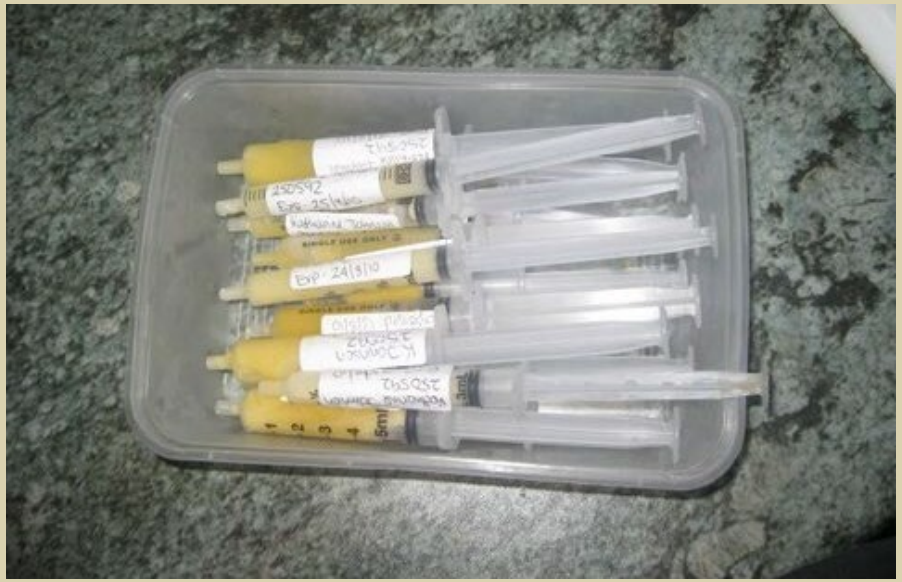
BEST PRACTICE:

Antenatal Counseling

- Explore patient's feeding goals, discuss the importance of breastfeeding and dispel any myths/misconceptions.
- Encourage participation in a prenatal breastfeeding class and/or support group. ksbreastfeeding.org/local-resource-directory
- Discuss indications for early induction and possibility for baby to require NICU admission / transfer for higher level of care
- Teach antenatal hand expression for those at higher risk of separation or C-section firstdroplets.com
- Discuss option of pasteurized donor human milk (PDHM) if available
- Provide Rx for a breast pump and resources on how to obtain via insurance if available.

Handout: KanCare Breast Pump Coverage and Access - https://ksbreastfeeding.org/wp-content/uploads/2025/02/KanCare-BREAST-PUMP-info-02-2025.pdf

Kansas Breastfeeding Coalition, Inc.



ANTENATAL EXPRESSION

- Antenatal hand expression – once or twice a day
- In most cases pregnant people may begin around 37 weeks with OB ok
- Collect in small (3-5 ml) syringes and label with date/time expressed and freeze
- Care team to ensure colostrum remains *frozen* until baby is born
- Once thawed should be used with 24 hours

Kansas Breastfeeding Coalition, Inc.

BEST PRACTICE:

Skin to Skin & Responsive Feeding

Early & Often

- Start skin-to-skin (STS) immediately. Regardless of feeding method, stable newborns are immediately placed prone on the birthing parent's bare chest after birth. Thoroughly dried and the couplet is covered with a warm blanket.
  - Following a vaginal birth, STS begins immediately, unless there is a documented medical reasons for a delay.
  - Following a cesarean birth, STS begins when safe and feasible. Minimally, STS begins in the recovery room when the birthing parent is responsive and alert, unless there is a documented medical reason for a delay.
- The initial period of STS continues uninterrupted for at least 1 hour and through the completion of the first breastfeeding (at least one hour if not breastfeeding.)
- If parent is on continuous infusion (e.g., mag), evaluate alertness and fall-risk. Continuous monitoring of couplet during early skin to skin in the transition period.

AAP (2022); BFUSA

Kansas Breastfeeding Coalition, Inc.

IMPORTANCE OF IMMEDIATE SKIN-TO-SKIN

- Releases a cascade of hormones in both parent and infant, especially oxytocin
- First hour is a time-sensitive period for unlocking and programming infant and maternal behaviors
- Many physical benefits for infant – promotes GI motility, stabilizes blood glucose levels, supports thermal stability, colonizes infant with parent's flora
- Enhances PP uterine contractions reducing risk of hemorrhage
- Breastfeeding infants are 3 times more likely to remain exclusively breastfed by time of discharge if they have at least a full hour of immediate skin to skin after delivery.

REMINDERS FOR SKIN-TO-SKIN

- Skin-to-skin is for wonderful for both parents, however baby should remain skin-to-skin with the birthing parent in the first hour, unless there are complications.
- Routine cares should be done on parent's chest, or delayed until after the first feeding and at least an hour of skin-to-skin (weight, meds, etc.)
- Great time to educate on cue-based feeding
- The average infant takes 52 mins to find the breast by themselves
- Assist with/support the first breastfeeding

SAFETY AND SKIN-TO-SKIN CARE

- Can you see baby's face?
- Are baby's nose and mouth uncovered?
- Is baby in the "sniffing" position?
- Is baby's neck straight, not bent?
- Is baby chest-to-chest with baby's shoulders flat against the birthing parent?
- Are baby's legs flexed?
- Are parent and baby positioned a little upright, not flat?
- Is baby's back covered with a blanket?

BEST PRACTICE:

Support Safe Rooming-in

- Magnesium sulfate may cause maternal sedation.
- Rooming-in can be encouraged even for high-risk couplets and it must be **actively supported and continuously reassessed**.

Kansas Breastfeeding Coalition, Inc.

SAFE ROOMING-IN

- **Risk Assessment:** maternal sedation / fatigue, mobility limits, infant stability
- **Environment & Staffing:** scan of the room (lower bed, raise bedrails), consider support system
- **Parent Education:** safe sleep, skin-to-skin safety, pressing call-light for help before ambulating
- **Monitoring for drowsiness/fall risk:** hourly rounding, document maternal/infant safety, continuous observe for early feedings
- **Collaboration & Escalation:** temporary separation only if safety compromised

BEST PRACTICE:

Early Initiation of Milk Expression

- When skin to skin and direct attachment is not possible, hand expression and/or pumping in the first hours is critical for establishment of milk supply.
- Jane Morton, Stanford – med.stanford.edu/newborns/
- Combining hand expression with pumping to boost yield

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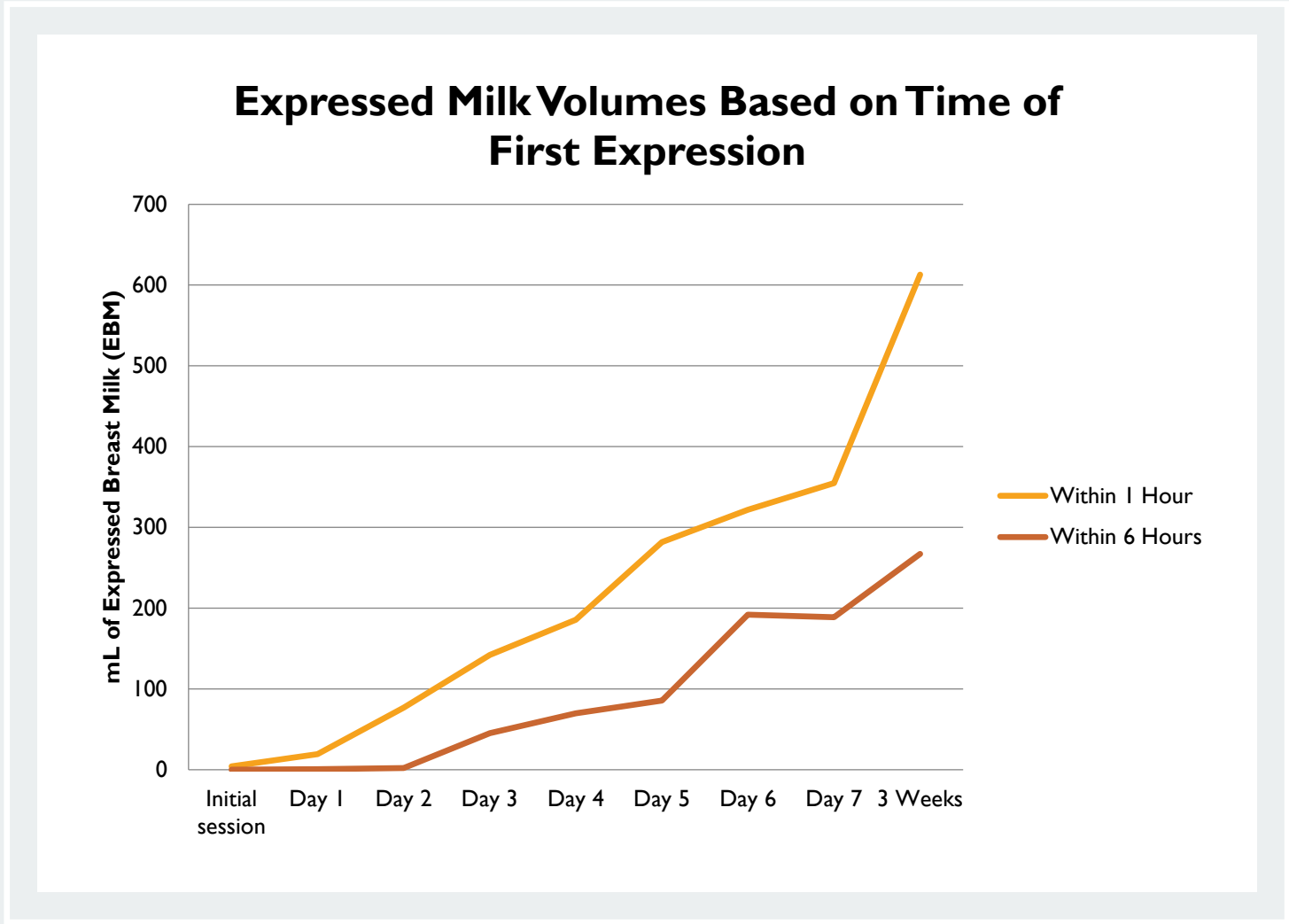
TIMING MATTERS

Parker, et al (2012) compared milk volumes of two groups of mothers with VLBW infants (a RCT) who initiated milk expression

- within 1 hour, or
- between 1 and 6 hours

Group that initiated milk expression within 1 hour had the strongest association with higher volumes and decreased time to secretory activation (onset of mature milk)



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WHY HAND EXPRESSION?

To obtain colostrum when needed if baby unable to feed directly at the breast	Boosts maternal self-efficacy
Reduces need for other supplements	Can be used to maintain or increase milk supply
More effective than pumping alone in obtaining volume in the first few days of life	Can be used to relieve engorgement
Expressed drops can be used to entice a babe to breast	Some prefer the feel or convenience of hand expression over pumping

The Neptune Fountain
Bologna, Italy

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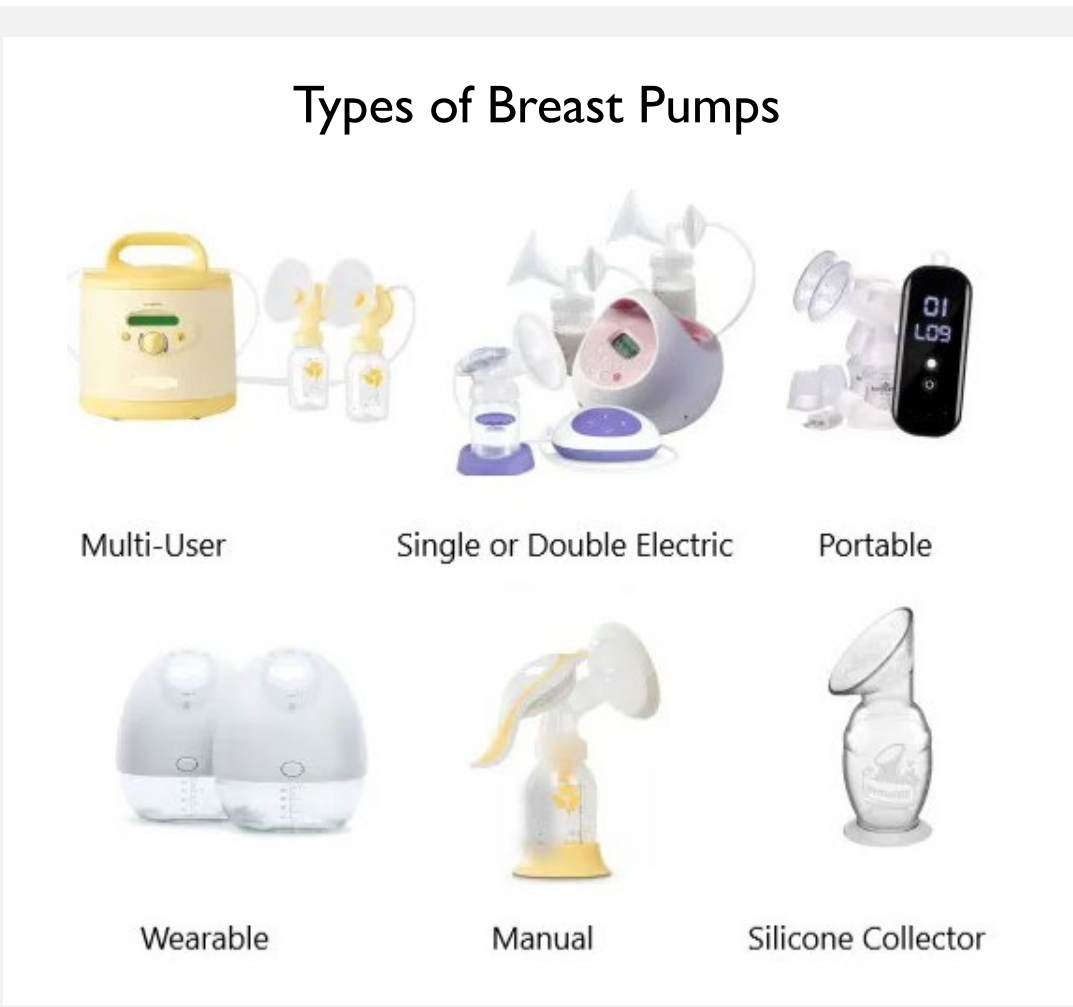
MILK EXPRESSION ROUTINE & EQUIPMENT CONSIDERATIONS

- Initiate milk expression (hand expression and/or pumping) within 1–2 hours if infant unable to feed or any separation is required (NICU admit)
- Use of a multi-user, double electric pump. Pumps vary greatly in quality and efficacy.
- Aim for 8+ sessions per 24 hrs., approx. 15 mins
- Encourage expressing at baby's bedside and skin-to-skin whenever possible
- Studies show hand expression + electric pumping increases milk production vs pump alone (Morton)



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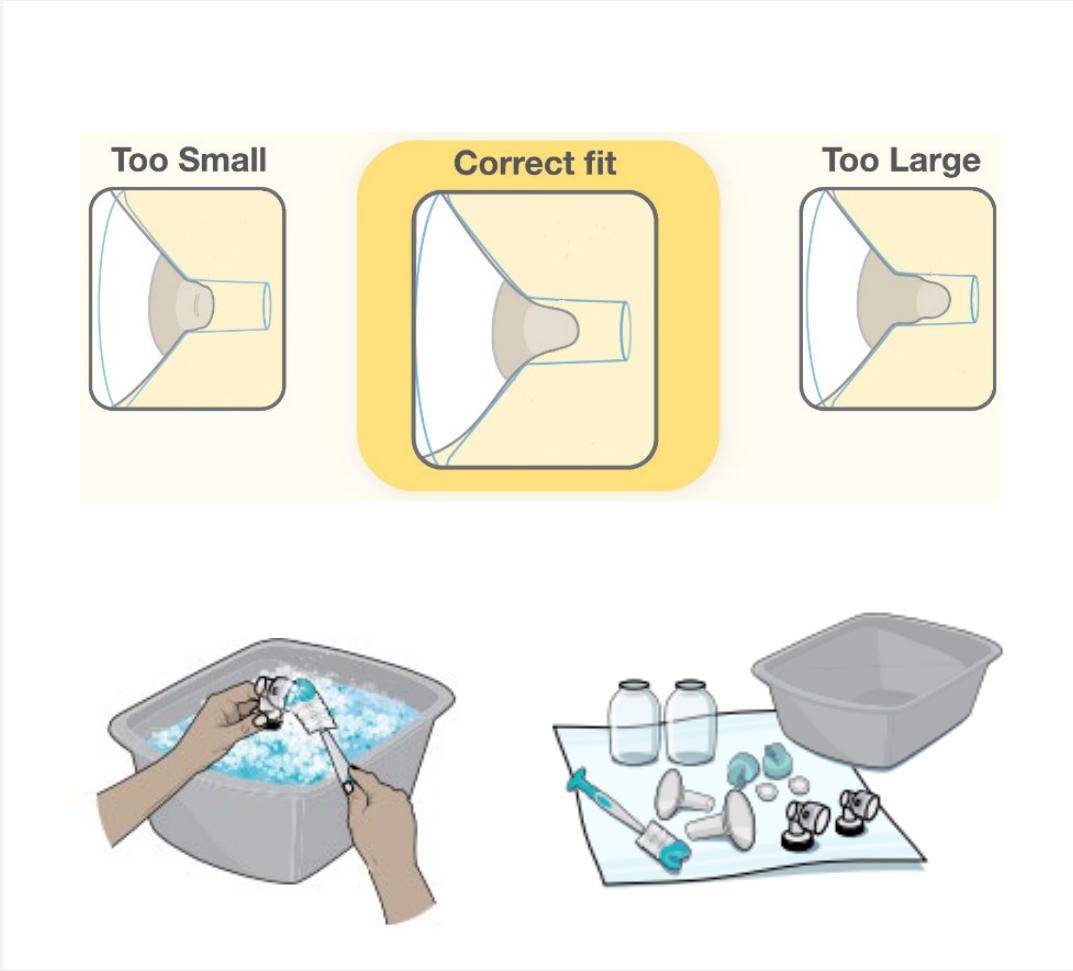
FLANGE FIT & PUMP KIT HYGIENE

- Flange fit matters. After pumping, breasts should feel softer all over. Pumping should not be painful!
- Use mild dish soap and warm water, hand wash pump parts in a wash basin after each use. Do not wash parts directly in the sink because germs in the sink may contaminate the items. The long tubing generally does not need to be washed.
- Steam sanitize pump parts once per day.
- If your facility has a NICU, consider implementing a loaner pump program to ensure access to a high quality, multi-user pump for those who are pump-dependent



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MILK STORAGE, HANDLING & TRANSPORT

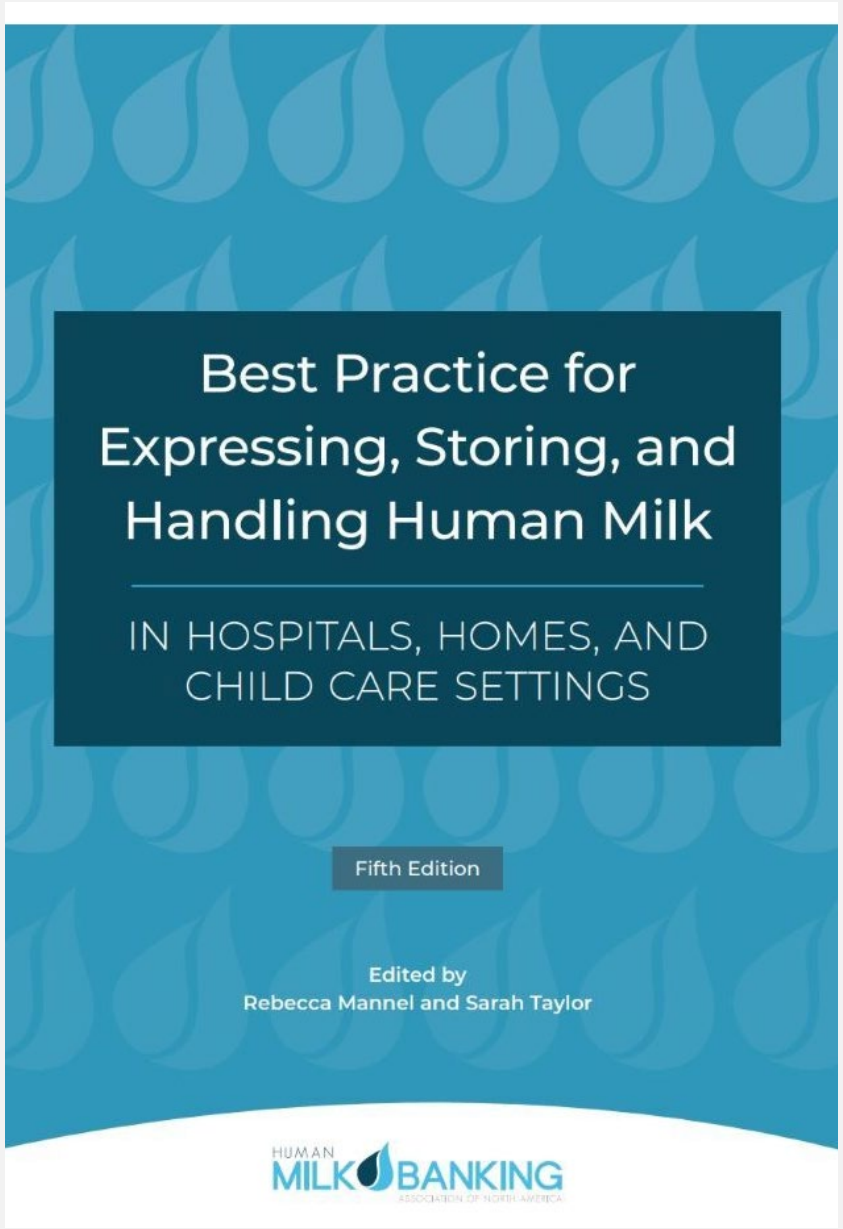
Guidelines may vary slightly in different settings (NICU, home, childcare settings) – consider your own facilities policies and the evidence behind them

- Room temp (≤77°F): up to 4 hours
- Insulated cooler w/ "blue ice" packs: up to 24 hrs.
- Fridge (≤40°F): up to 4 days
- Freezer (0°F): 6–12 months

Label with patient name, DOB, date/time expressed

Milk should be treated as food — not a biohazard!

Provide patient with storage containers, labels, and transport instructions prior to discharge



BEST PRACTICE:

Consider How to Best Support Readmitted Patients

- Identify lactating patients upon admission to the hospital.
- Support and provide resources to the lactating patient to encourage continued lactation.
- Coordinate care to support in a case-appropriate way: continued breastfeeding, temporary interruption, or discontinuation of lactation in a way that avoids harm.

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MODEL POLICY FOR A READMITTED LACTATING PATIENT

- Much like we do for pregnancy status, consider assessing all female patients of childbearing age on lactation status on admission and ensure it is clearly documented.
- Consider referral to lactation if available.
- Ensure your facility has multi-user electric pumps & storage bottles available. Support the patient in feeding infant directly at the breast if infant able to be in hospital with the patient. Or expressing milk at approximately the same schedule as before admission.
- Ensure milk storage options are available and coordinate with pharmacy to identify medications that are compatible with breastfeeding.

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CONSIDERATIONS FOR PRE/POST PROCEDURE

- If patient is having a procedure, they should be encouraged to express milk or breastfeed before the procedure.
- After procedure, and as soon as the patient is alert and able, they should be encouraged to express milk or breastfeed.
- If the lactating patient is unconscious, preparations should be made to have a knowledgeable person assist with milk expression.
- If surgical skin prep is indicated, choose chlorhexidine over iodine, and avoid applying it to the breasts if possible. Wash surgical skin prep from the breast area, if necessary, at the conclusion of the procedure.

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BEST PRACTICE:

Evidence-Informed Decision Making on Medications

- Most antihypertensives are compatible with breastfeeding and the use of milk.
- Use evidence-based references like LactMed, Hale's *Medications & Mother's Milk* book, Infant Risk Center
- Avoid *Physicians' Desk Reference* or relying on package inserts, Google/AI.
- Coordinate with pharmacy and/or prescribing providers to include preferred agents and alternatives
- Consider adding a weblink to LactMed from your EHR

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Common medications

Lactation Risk Categories (Hale)

- **L1 – Compatible**
- **L2 – Probably Compatible**
- **L3 – Presumed Compatible**
- **L4 – Potentially Hazardous**
- **L5 – Hazardous**

Magnesium sulfate - L1.

Unlikely that the amount of magnesium in milk would be clinically relevant.

Labetalol (Normodyne) - L2.

Levels reported in infant have been low, but it is dose related. RID 0.2-0.6%

Hydralazine (Alphapress) - L2.

Milk levels far less than the pediatric dose.

Nifedipine (Procardia) - L2.

The amount of nifedipine intake in infant would be very low (less than 1.8% of the pediatric dose) and thus poses little risk to an infant.

Diuretics - usually L2 meds.

Rarely may reduce milk supply; avoid high-dose thiazides if possible.

Hale's Medications & Mothers' Milk 2025-26

Common meds, cont

Lactation Risk Categories (Hale)
- **L1 – Compatible**
- **L2 – Probably Compatible**
- **L3 – Presumed Compatible**
- **L4 – Potentially Hazardous**
- **L5 – Hazardous**

Carboprost (Hemabate) - L3.

Not likely to penetrate milk in clinically relevant amounts.

Methergine - L2.

Short-term use (<5 days) is not problematic. Prolonged use may negatively affect milk production.

Pitocin - L2.

Minimal oral absorption, very short half-life (3-5 mins)

Tranexamic acid (TXA) - L3.

Excreted in human milk minimally. Present in the mother's milk at a concentration of about one-hundredth of the corresponding maternal serum concentration.

Misoprostol (Cytotec) - L2.

At peak concentration 1 hour after dose, authors estimate that the infant would receive less than 0.5% of the maternal dose. Rapidly eliminated and levels in milk are exceedingly low.

Oxycodone - L3.

Doses greater than 40mg/day are discouraged in opiate naïve breastfeeding mothers.

Hale's Medications & Mothers' Milk 2025-26

KEY RESOURCES & REFERENCES

- KBC's Medications in Lactation algorithm (new revision coming soon!)
- NIH's LactMed Database
- Medications & Mother's Milk, by Hale & Krutsch (published every 2 years)
- Infant Risk Center at Texas Tech University (806)352-2519 8am-3pm M-F
- CDC's Milk Storage & Handling guidance
- HMBANA's Best Practice for Expressing, Storing and Handling Human Milk in Hospitals, Homes and Childcare Settings (2024)
- ABM Protocols www.bfmed.org/protocols
- COBA's Model Hospital Policy for Readmitted Lactating Patient

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EDUCATION NEEDS

Breastfeeding 101 & 201 Courses

- Consider staff education needs to support lactating patients. Staff who are not consistently caring for lactating parents (or are in a facility where lactation services are not available) must receive basic education on supporting the lactating patient.
- This education should include the following topics at a minimum:
  - Importance of breastfeeding, need for support to sustain
  - Process of milk production
  - Signs and treatment of engorgement, mastitis, nipple damage
  - Breast pump use
  - Milk storage guidelines
  - Lactation support and referral sources

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APPLIED LEARNING THROUGH CASE STUDIES

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#1: GESTATIONAL HYPERTENSION

- **Vignette:** 29yo G1 with gestational HTN, term vaginal birth, goal of exclusive breastfeeding
- **Interventions:** Antenatal counseling and education; Immediate skin-to-skin and rooming-in; Hand expression and spoon-feeding colostrum; Assessment of feedings at least q shift; Referral to outpatient lactation if available
- **Outcome:** Exclusively breastfeeding at discharge and through 6 weeks

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#2: SEVERE PREECLAMPSIA ON MGSO4, C-SECTION, NICU ADMISSION

- **Vignette:** 34yo G2 with severe preeclampsia, emergency C-section, term infant to NICU for respiratory support
- **Interventions:** Hand expression initiated in PACU within 30 min and expression with hospital-provided multi-user pump once transferred to PP unit; Partner offered skin-to-skin in NICU once baby stable; Maternal meds were reviewed and use of EBM supported in the NICU; Parents consented to PDHM as a bridge.
- **Outcome:** Infant transitioned to room air after 24 hours and was supported in initiating breastfeeding along with NG feeds. Transferred to nursery level of care after 36 hours and roomed in with parents. Onset of mature milk by day 3. Couplet discharged home together on day 5.

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#3: CHRONIC HTN – PP READMIT

- **Vignette:** 38yo P3 with chronic HTN admitted to non-birthing facility on day 8 PP for management of postpartum BP
- **Interventions:** Nursing team provided hospital multi-user breast pump and offered education, including a plan to label and store milk; Pharmacy consulted to optimize meds compatible with lactation (mag, switch from atenolol to nifedipine); Nursing team coordinated with the FOB and offered a crib; FOB supported in bringing infant to patient for breastfeeding and stayed to provide safe care for infant.
- **Outcome:** Milk supply sustained through consistent milk expression; Dyad was reunited and successfully reestablished breastfeeding. Continued breastfeeding at 6 months.

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TECHNICAL ASSISTANCE & SUPPORT

www.high5kansas.org

- Breastfeeding Policy Checklist
- Skills Fair Kit
- High 5 for Mom and Baby Recognition Application
- Parent Resources
- Marketing Materials

TECHNICAL ASSISTANCE & SUPPORT

Kansas Breastfeeding Coalition, Inc.

KBC's Local Resource Directory

Join KBC's Hospital Section

Kansas 2025 Breastfeeding Conference

Oct 16th & 17th

Drury Plaza Hotel in Wichita

It's not too late! Register today!

ksbreastfeeding.org/breastfeeding-conference

Thank you for your time today!

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Open access images from the USBC's Landscape of Breastfeeding Support usbreastfeeding.org

REFERENCES:

- Baby-Friendly USA, Inc. "Guidelines and Evaluation Criteria for Facilities Seeking Baby-Friendly Designation, 6th Edition." Albany, NY: Baby-Friendly USA.
- Feldman-Winter, L and Goldsmith, J. Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns. *Pediatrics* 2016; e20161889. 10.1542/peds.2016-1889
- Flaherman VJ, Gay B, Scott C, Avins A, Lee KA, Newman TB. RCT Comparing Hand Expression with Breast Pumping for Mothers of Term Newborns Feeding Poorly. *Arch Dis Child Fetal Neonatal* Ed. 2012 Jan;97(1):F18-23.
- Mangel L, Ovental A, Batscha N, Arnon M, Yakoni I, Dolberg S. Higher fat content in breastmilk expressed manually: A randomized trial. *Breastfeeding Medicine* 2015 10(7); 352-354.
- Morton J, et al. Combining hand techniques with electric pumping increases milk production in mothers of preterm infants., *J Perinatol.* 2009 Nov;29(11):757-64. Epub 2009 Jul 2.
- Nardella D, Canavan ME, Taylor SN, Sharifi M. Hypertensive Disorders of Pregnancy and Breastfeeding Among US Women. *JAMA Netw Open*. 2025;8(7):e2521902. doi:10.1001/jamanetworkopen.2025.21902
- Ohyama M, Watabe H, Hayasaka Y. Manual expression and electric breast pumping in the first 48 h after delivery. *Pediatr Int.* 2010;52:39-43.
- Parker LA, et al. Effect of early breast milk expression on milk volume and timing of lactogenesis stage II among mothers of very low birth weight infants: a pilot study. *J Perinatol.* 2012; 32, 205-209. doi:10.1038/jp.2011.78
- Villarreal, et al. Lactation and cardiovascular health: A comprehensive review. *American Heart Journal Plus: Cardiology Research and Practice.* 2025; 56, 100571. doi:10.1016/j.ahjo.2025.100571

Upcoming trainings and events for KPQC Champions:

- 10/3/25: HaysMed Maternal, Infant and Immunization Health Symposium
- 10/14/25: Bridges to Wellness, Session One (only need to register once for both sessions)
- 10/21/25: Bridges to Wellness, Session Two (only need to register once for both sessions)
- 10/28/25: KPQC Fall Conference
- 11/18/25: KPQC Champion In-Person Workday (WEST) in Hays (only attend one – EAST or WEST)
- 11/25/25: KPQC Monthly Learning Forum (only need to register once for ALL Learning Forums)
- 12/2/25: KPQC Champion In-Person Workday (EAST) in Lawrence (only attend one – EAST or WEST)

KPQC
Kansas Perinatal Quality Collaborative

Upcoming:

October 28, 2025 - Fall Conference (virtual)

November 25, 2025 - Learning Forum

December – No Learning Forum