

Summary of the Efficacy of the Ten Steps in Promoting Sustained Breastfeeding from the 2017 WHO Expert Panel¹

	Steps	Benefits or Neutral	Risks	WHO Panel Recommendation
				Fed is Best Recommendation
1	Have a health facility written breastfeeding policy.	Unclear	Unclear	Recommended (very low)
				Recommended but with policies that better prevent feeding complications
2	Train HCW to implement the breastfeeding policy (BFHI)	Unclear	Unclear	Recommended (very low)
				Recommended but with education that better prevent feeding complications
3	Prenatal and postnatal breastfeeding education and support	Probably improved BF up to 6 months by 11% (moderate) May have improved EBF up to 6 months by 11% (low) Improved any BF up to 4–6 weeks by 12% (high) May improve EBF up to 4–6 weeks by 21% (low)	None found Mothers felt education was inadequate and infrequent, biased toward only breastfeeding and not on other options, and had insufficient discussion about challenges. Education	Recommended (moderate)
				Recommended

		43% improvement in BF initiation if given by HCW, and 22% improvement if given by non-HCW	led to negative interactions with HCW.	
3	Show mothers how to express breast milk	Unclear given no studies showing effect on breastfeeding or milk supply	None identified	Recommended (very low)
				Recommended
4	Skin to skin contact (SSC) after birth for 1 hour Immediate SSC within 10 mins after birth Early SSC - 10 mins to 23 hrs	Probably improves BF at discharge to 1 month by 30%. (mod)	Infant falls from bed and sudden unexpected postnatal collapse (SUPC) from infant suffocation, brain injury, near death, and death if the parent falls asleep during SSC Higher risk of SUPC with anesthesia and cesarean birth	Recommended if mother and baby are medically stable with close HCW supervision to prevent SUPC (mod)
		May improve EBF by 50% at 6 wks to 6 mos. (low) Improves any BF at 1–4 mos by 24% (mod) No difference between immediate and early SSC Increase in blood glucose by 10.5 mg/dl at <3 hrs Slight increase in body temperature.		Recommended as above.
4	Kangaroo Mother Care (KMC) for low birth weight babies - continuous SSC for as long as mother and baby tolerates	16% improvement in BF at discharge or 40–41 wks gestation (mod)	Infant fall or SUPC if the parent falls asleep	Recommended if both are medically stable with close HCW supervision to prevent SUPC
		No difference in breastfeeding rates if KMC is started <23 hrs or >24 hrs (moderate) May improve EBF by 20% and any breastfeeding by 17% at 1–3 months (low) Decreased mortality by 33% although reverse causation is		Recommended as above.

		<p>possible as it comes from observational studies (n/a)</p> <p>Decreased sepsis or severe infection by 50% (n/a)</p> <p>No difference on any BF at 6–12 mos or EBF at 6 mos</p>		
5	Early initiation of BF < 1 hr (compared to 2-23 hrs)	<p>33% lower risk of dying within 28 days (high).</p> <p>15% higher EBF rates at 1 mo and 5% higher at 3 months (moderate), although reverse causation is possible as it comes from observational studies</p>	<p>Same risks as those of SSC except during breastfeeding</p>	<p>Recommended if both are medically stable with close HCW supervision to prevent SUPC</p>
				<p>Recommended as above.</p>
5	Early initiation of BF < 1 hr (compared to >24 hrs)	<p>219% lower risk of dying within 28 days. (high)</p> <p>24% increased exclusive breastfeeding rates at 1 month and 6% higher at 3 months. (moderate)</p>	<p>Same as above</p>	<p>Recommended if both are medically stable with close HCW supervision to prevent SUPC</p>
				<p>Recommended as above.</p>
6	Give no food (formula) other	<p>Supplemental milk probably makes little to no difference to</p>	<p>Lower BF rates in EBF newborns compared to</p>	<p>Recommended (moderate)</p>

	<p>than breast milk except for medical indications</p>	<p>breastfeeding at discharge (n = 100 babies, moderate)*</p>	<p>newborns supplemented with 10 mL formula after each breastfeed for ≥ 75th percentile weight loss:</p> <p>21% higher BF rates at 3 months in supplemented babies</p> <p>43% higher EBF rates at 3 months in supplemented babies</p> <p>*deemed “very low” despite being larger than the study with the asterisk, (n=137 babies)</p> <p>44% lower risk of allergy symptoms at 18 months among infants given formula every 4 hours until lactogenesis II</p> <p>Risks of jaundice, hypoglycemia, and dehydration not mentioned by panel</p>	<p>Not recommended as the default goal for all mothers as it may be counter-productive to breastfeeding and has risks if colostrum/breast milk is inadequate. Data showed lower BF rates in EBF babies compared to supplemented babies. Three later studies show judicious supplementation does not reduce BF rates.^{2,3,4}</p>
<p>6</p>	<p>Give no additional water in first few days after birth</p>	<p>Add'l water reduces any BF at 4 weeks by 17% (moderate),</p> <p>reduces BF at 12 weeks by 32% (moderate),</p> <p>reduces any BF at 20 weeks by 31% (moderate)</p>	<p>None identified</p>	<p>Recommended (moderate)</p> <hr/> <p>Recommended</p>

7	Rooming in 24/7	92% increased EBF rates at 4 days after birth (moderate) No significant effects on any BF at 6 months (moderate) or 3–4 months (low)	Mothers are less able to sleep without nursery care, which can lead to accidental bedsharing, infant falls from bed, or SUPC	Recommended (mod)
				Optional - may facilitate early breastfeeding but can cause parental sleep deprivation. Nurseries should be readily available for safety and recovery.
8	Feeding on demand	Data only available for preterm babies: Discharged at earlier gestational age (–0.48 week) Shorter time to taking full oral feedings (–5.53 days) 3 studies show no difference in weight gain or length of hospital stay Unknown effect on term babies	Preterm infants fed in response to hunger and satiation cues had slower weight gain (–1.36 g/kg/day)	Recommended (very low)
				Recommended but with close monitoring that prolonged (>30 min/feed) or too frequent nursing (>every 2 hrs) are signs of inadequate feeding requiring evaluation
9	Avoidance of pacifiers or dummies	Makes little to no difference in BF at discharge, at 3–4 mos, and at 6 mos. (high) Little to no difference to EBF at 3–4 months (moderate)	Pacifier use has been shown to reduce the risk of SIDS by 70%. ⁵	Not recommended (moderate)

		In preterm infants, little to no difference in any BF (mod) or EBF (low) at discharge, Little to no difference in any BF at 3 and 6 months (very low)		Not recommended given benefits of pacifier use on SIDS rates and no meaningful effect on BF (low)
9	Avoidance of bottles or teats (artificial nipples)	In term infants, had little to no difference on: BF at discharge <ul style="list-style-type: none"> any BF at 2 mos (mod) any BF at 6 mos (low), duration of any BF or EBF (low) In preterm infants, non-bottle methods probably improved BF: <ul style="list-style-type: none"> 47% increased EBF at discharge 56% increased BF at 3 mos, 64% increased BF at 6 mos 	Spillage of colostrum or messy, ineffective feeding	Not recommended Supplemental feeds may be given via bottles or other feeding methods.
				Not recommended as above. May be beneficial in preterm babies
10	Discharge planning for continuing breastfeeding support	Quality of available evidence is very low. Written information on drop-in BF centers made little to no difference on BF at 4 mos.	None identified.	Recommended (low)
				Recommended

*HCW - healthcare worker, EBF - exclusive breastfeeding, BF - any breastfeeding, mod - moderate quality evidence, SUPC - sudden unexpected postnatal collapse, KMC - Kangaroo Mother Care, n/a - no assessment of quality of evidence

¹ WHO. "WHO | Protecting, Promoting and Supporting Breastfeeding in Facilities Providing Maternity and Newborn Services." Accessed April 11, 2019.

<https://www.who.int/publications/i/item/9789241550086>.

² Kair, Laura R., Valerie J. Flaherman, and Tarah T. Colaizy. "Effect of Donor Milk Supplementation on Breastfeeding Outcomes in Term Newborns: A Randomized Controlled Trial." *Clinical Pediatrics* 58, no. 5 (May 2019): 534-40.

<https://doi.org/10.1177/0009922819826105>.

³ Flaherman, Valerie J., Michael D. Cabana, Charles E. McCulloch, and Ian M. Paul. "Effect of Early Limited Formula on Breastfeeding Duration in the First Year of Life: A Randomized Clinical Trial." *JAMA Pediatrics* 173, no. 8 (August 1, 2019): 729-35.

<https://doi.org/10.1001/jamapediatrics.2019.1424>.

⁴ Flaherman, Valerie J., Nicole R. Narayan, Dennis Hartigan-O'Connor, Michael D. Cabana, Charles E. McCulloch, and Ian M. Paul. "The Effect of Early Limited Formula on Breastfeeding, Readmission, and Intestinal Microbiota: A Randomized Clinical Trial." *The Journal of Pediatrics* 196 (May 2018): 84-90.e1.

<https://doi.org/10.1016/j.jpeds.2017.12.073>.

⁵ Moon RY, Tanabe KO, Yang DC, Young HA, Hauck FR. Pacifier use and SIDS: evidence for a consistently reduced risk. *Matern Child Health J.* 2012;16(3):609-614. doi:10.1007/s10995-011-0793-x