

Formula Algorithm for Infants on Georgia WIC

Stanley Cohen, MD, FAAP and Kyla Crane, RDN, LD

Revised 2017

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Formula Algorithm for Infants on Georgia WIC

Stanley Cohen, MD, FAAP & Kyliya Crane, RD, LD

Tier 1

Breastmilk¹
"Routine" Cow's Milk Based Protein Formula

Tier 2

Rice Starch Formula
Soy Formula

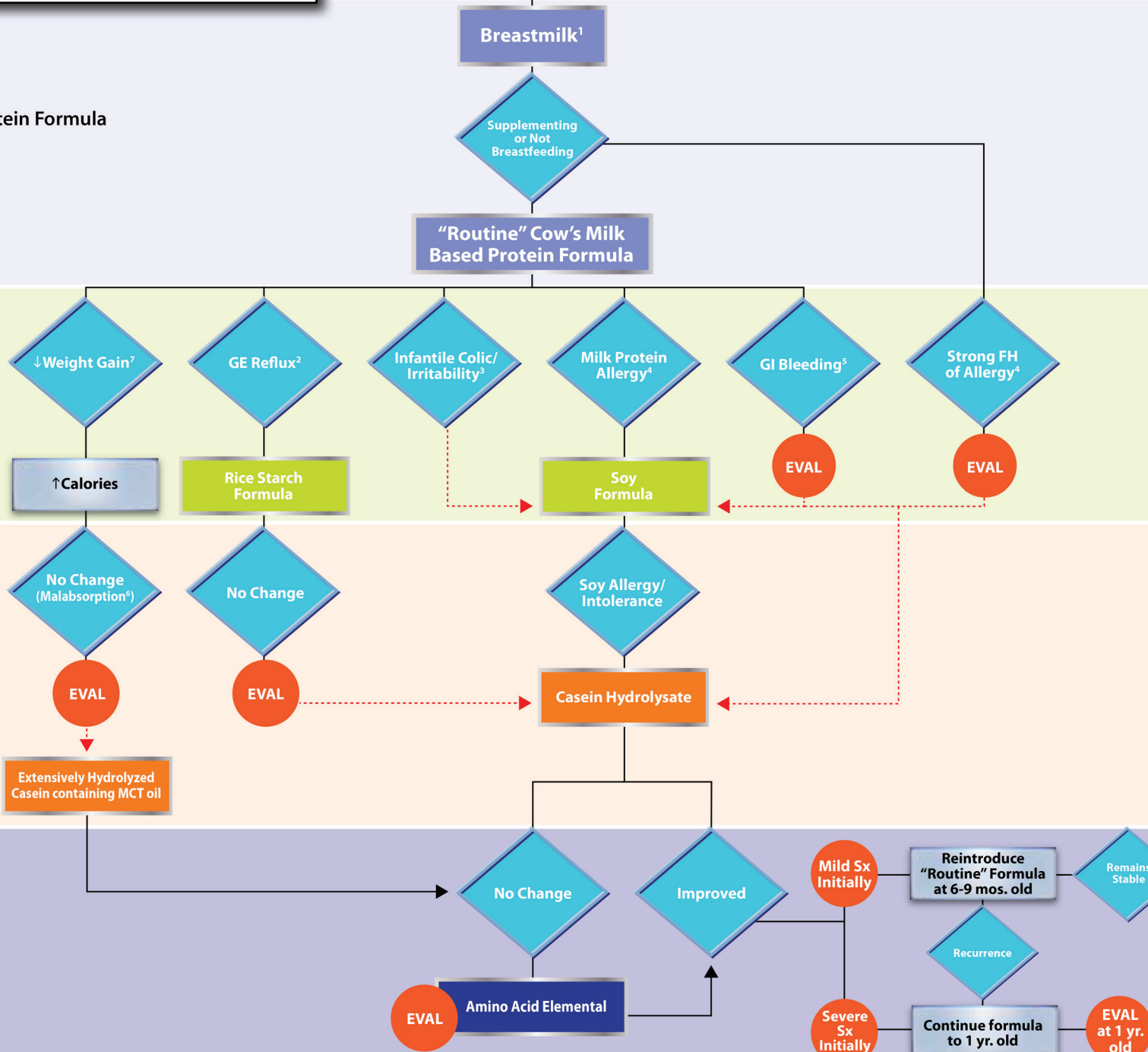
Tier 3

Extensively Hydrolysed
Casein containing MCT oil
Casein Hydrolysate

Tier 4

Amino Acid Elemental

Term Infant



Legend

Start/ Finish

Pre-Term Start

Tier 1
Action/ Process

Tier 2
Action/ Process

Tier 3
Action/ Process

Tier 4
Action/ Process

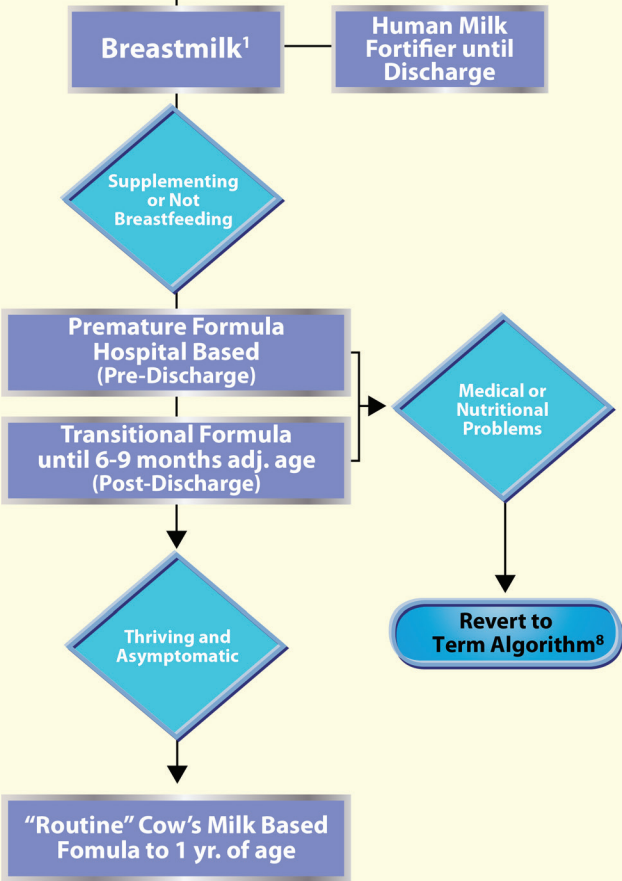
Decision

Evaluation

Direct Route

Alternate Route

Pre Term Infant (<37 weeks)



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Whole Vitamin D Cow's Milk should be started at 1 year of age unless formula is indicated.

- Breastmilk should be promoted as the optimal feeding method. This guide can assist with prescribing formulas when breastfeeding is not desired, if supplemental formula is introduced, or if breastfeeding is medically contraindicated. Breastfeeding should be considered and encouraged when common conditions arise with guidance from a physician.
- Gastroesophageal reflux (ICD-10 K21.0, K21.9) is common in the infant. Concern arises when the reflux causes weight loss, failure to thrive, feeding difficulties, or if it is associated with intermittent torticollis, respiratory illnesses/symptoms. A rice starch formula can be used though the effectiveness is limited if a gastric acid blocker is being used. Alternatively, infant cereal can be added to the current formula (adding 5 calories per teaspoon of infant cereal). If these products are not effective, a hydrolyzed product can be used.
- Infantile colic is distinguished by inconsolable irritability for a period of approximately 2-4 hours per day between 3 weeks and 4 months of age. When irritability is more prolonged or occurs outside those time parameters, other conditions including allergies, Gastroesophageal reflux, or infection should be considered. Irritability is so non-specific, it can represent reflux, allergy, intestinal "spasm" or a non GI cause. Lactose reduced formulas have only been helpful in exceedingly rare situations, since lactose intolerance is either genetic (usually starting in children after 5 years of age and rarely in infancy) or secondary and transient beginning as a result of damage to the intestinal villi (in which case the cause should be identified). It often is useful to consider a trial of soy formula for possible milk protein allergy (also alleviating lactose intolerance). Should that trial fail, reevaluation and progression along the algorithm are warranted.
- Formula-induced allergies may present with a rash (atopic dermatitis/eczema), vomiting, wheezing, and/or cough. They should be diagnosed carefully so that infants are not excluded from some formulas unnecessarily. Cow's milk allergy (ICD-10 Z91.011, K52.5) is the predominant cause. Studies demonstrate that 10-14% of infants with cow's milk allergy also have reactions to soy. Those who have non-IgE reactions to milk may have a 40% cross reactivity to soy. Thus, the majority of infants are likely to tolerate soy and this allows most infants to use soy formulas safely and with less expense than immediately employing an extensively hydrolyzed casein formula. When a strong family history of allergy exists (evidence of atopy marked by asthma, eczema, allergic rhinitis or food allergy in a first degree relative), elimination of cow's milk and soy products with the use of an extensively hydrolyzed formula may lessen the development of atopic dermatitis and childhood food allergies. As a result, the physician has the option of using a soy formula. Alternatively, an extensively hydrolyzed casein formula can be employed initially or after a soy trial. This remains an area of controversy and as a result either option is warranted.

- Rectal bleeding (ICD-10 K62.5) in an infant, when infection is not the cause, can be the result of infant formula/food or a food in the mother's diet (usually milk or dairy products). If the mother is supplementing, consider eliminating intact milk based on proteins from the mother's diet. Prompt evaluation, possibly including endoscopy, is usually needed to differentiate the cause, since the benign condition of lymphoid hyperplasia needs to be distinguished from Food Protein-Induced Enterocolitis (FPIES), which can result in severe vomiting, diarrhea, dehydration and potentially in life-threatening shock. The greater cross-reactivity to soy (30-64%) necessitates prompt transition to an extensively hydrolyzed casein formula.
- Malabsorption (ICD-10 K90.4) results in partially digested fat in the stool and often in distention, weight loss, a lack of weight gain and/or failure to thrive. The underlying cause should be identified so it can be treated effectively and resolved when possible. Changing the formula is often only a temporary measure, but until evaluation can occur, an extensively hydrolyzed casein formula with medium chain triglycerides (MCT) would be indicated. The presence of failure to thrive may implicate other factors or conditions to consider - these children should be promptly referred for evaluation if they do not respond to a formula change within days, at which point, an amino acid formula may be indicated.
- Decreased weight gain may result from numerous causes, and is often associated with inadequate caloric intake or loss (vomiting or diarrhea). Diarrhea, malabsorption or vomiting require thoughtful evaluation and may require a temporary or enduring formula change. When these symptoms are not present and inadequate intake is the predominant symptom, formula change is generally not effective. Carefully guided concentration of the formula is recommended.
- Soy protein-based formulas are not recommended for preterm infants. American Academy of Pediatrics, Committee on Nutrition. Use of Soy-Protein-Based Formulas in Infant Feeding. Pediatrics. 2008. Vol 121/Issue 5.

Note - It is usually not necessary to change formulas because of less frequent or difficult bowel movements. High sugar syrup, and prune juice can loosen stools but in doing so, they often cause considerable gas and discomfort. Extra water (2-4 oz.) during the day, glycerin suppositories and/or a small amount of a laxative, such as dioctyl sodium succinate, may be useful as the first option for constipated infants.

Formula Algorithm for Infants on Georgia WIC Resource Guide

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Table 2 - Pre-Term Infant on the other side →

Table 1 Term Infant									
Tier	Formula Category	WIC Approved Formula*	Manufacturer	Form	Size	Composition	Medical Documentation Required	Indication/ICD-10 (Other potential diagnoses may be indicated and are not limited to only those listed)	
Tier 1	"Routine" Cow's Milk Based	Enfamil Infant	Mead Johnson Nutrition	Powder	12.5 oz.	20 kcal per fl oz., 60:40 whey-to-casein ratio, intact protein, lactose, soy oil, prebiotics, DHA	No	Healthy term infants who are not exclusively breastfed Kosher and Halal	
				Concentrate	13 oz.				
				Ready to Feed	32 oz.				
Tier 2	Soy	Enfamil ProSobee	Mead Johnson Nutrition	Powder	12.9 oz.	20 kcal per fl oz., soy protein isolate, dairy-free, lactose free, DHA	No	Parental Request Kosher and Halal Vegetarian/ Vegan Families Cow's milk allergy/ Z91.011 Galactosemia E74.21 Lactose Intolerance/ E73.9	
				Concentrate	13 oz.				
				Ready to Feed	8 oz.				
	Rice Starch	Enfamil AR	Mead Johnson Nutrition	Powder	12.9 oz.	20 kcal per fl oz., Whey 20%, Casein 80%, lactose, rice starch, maltodextrin, prebiotics	Yes	In order for either of these non-contract rice added formulas to be provided by WIC, the following 2 conditions must be met: 1. Diagnosis of gastroesophageal reflux disease (GERD)/K21.0, K21.9 AND one of the following underlying conditions: 2. Tube feed/Z97.8, GERD Surgery (Fundoplication/ Z98.89), Risk or history of aspiration; Weight loss; Poor weight gain/R62.51; Drop of at least one weight channel on growth chart. Note: If weights are not provided, then weight will be obtained at the WIC clinic.	
					Ready to Feed				2 oz.
					8 oz.				
					32 oz.				
Tier 3	Casein Hydrolysate	Gerber Extensive HA	Nestle Nutrition	Powder	14.1 oz.	20 kcal per fl oz, hypoallergenic 100% whey protein, 49% MCT, 90% maltodextrin, Probiotic B. lactis, DHA	Yes	Cow's milk allergy/Z91.011 (try soy except if strong family history of allergy) Soy protein allergy/Z91.018 Food protein-induced Enterocolitis (FPIES) /K52.21 Malabsorption/K90.4	
		Nutramigen	Mead Johnson Nutrition	Concentrate	13 oz.	20 kcal per fl oz., hypoallergenic Lactose free, corn syrup solids and modified corn starch;			
				Ready to Feed	2 oz.				
				32 oz.					
		Nutramigen with Enflora LGG	Mead Johnson Nutrition	Powder	12.6 oz.	Same composition as Nutramigen with probiotic added (Only in powdered form)			
		Similac Alimentum	Abbott Nutrition	Powder	12.1 oz.	20 kcal per fl oz., hypoallergenic Whey 70%, Casein 30% Lactose free, sucrose and modified tapioca starch, 33% MCT			
				16 oz.					
	Ready to Feed			8 oz.					
				32 oz.					
Extensively Hydrolyzed Casein Containing MCT Oil	Pregestimil	Mead Johnson Nutrition	Powder	1 lb.	20 kcal per fl oz, hypoallergenic lactose free	Yes	Malabsorption/K90.4		
			Ready to Feed	2 oz.					
Tier 4	Amino Acid Elemental	Alfamino Infant	Nestle Nutrition	Powder	14.1 oz.	20 kcal per fl oz., hypoallergenic, free amino acid formula, lactose-free and gluten-free, fat blend containing MCT	Yes	Short bowel syndrome/K91.2 Necrotizing enterocolitis/P77.9 Eosinophilic esophagitis/K20.0 Severe allergy to cow's milk/ Z91.011 with failure to Tier 3 formula Multiple food protein intolerance/K52.21 GI impairment Malabsorption/K90.4	
		EleCare	Abbott Nutrition	Powder	14.1 oz.	20 kcal per fl oz., amino acids, Lactose, sucrose, soy, and gluten-free, hypoallergenic, 33% MCT			
		Neocate Infant DHA/ARA	Nutricia	Powder	14 oz.	20 kcal per fl oz., hypoallergenic, amino acids, lactose, sucrose, soy, and gluten-free, MCT			
		PurAmino	Mead Johnson Nutrition	Powder	14.1 oz.	20 kcal per fl oz., 100% free amino acids. MCT			

State WIC agencies are required by law to competitively bid infant formula rebate contracts with formula manufacturers in which the manufacturers provide a rebate for formula purchased by WIC participants. This translates into more women, infants, & children who can receive WIC benefits. The current WIC Formula Rebate Contract is with Mead Johnson Nutrition (October 29, 2018 – September 30, 2021). The following formulas are rebated and DO NOT require Medical Documentation: Enfamil Infant, Enfamil ProSobee, and Enfamil Gentlease. Although lactose reduced formulas are not included in the Formula Algorithm due to the diagnosis being rare in infancy, Enfamil Gentlease is a lactose reduced (20%) formula that is rebated and included as a Georgia WIC Approved formula.

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Table 1 - Term Infant on the other side →

Table 2 Pre-Term Infant

Category	WIC Approved Product	Manufacturer	Form	Size	Composition	Medical Documentation Required	Indication/ICD-10
Human Milk Fortifier	Enfamil Human Milk Fortifier Acidified Liquid	Mead Johnson Nutrition	Liquid	5 mL vial	Commercially sterile liquid, contains milk & soy ingredients, MCT oil	Yes	Intended for breast-fed babies who were born prematurely or with a low birth weight as a nutritional supplement added to preterm breast milk Prematurity/Low Birth Weight P07.2, P07.3, P07.10, P07.14-P07.18
	Enfamil Human Milk Fortifier	Mead Johnson Nutrition	Powder	5 mL vial	Contains milk & soy ingredients, MCT oil	Yes	Intended for breast-fed babies who were born prematurely or with a low birth weight as a nutritional supplement added to preterm breast milk Prematurity/Low Birth Weight P07.2, P07.3, P07.10, P07.14-P07.18
	Similac Human Milk Fortifier	Abbott Nutrition	Powder1	0.9 g	Powdered, contains milk & soy ingredients	Yes	Intended for breast-fed babies with a low birth weight as a nutritional supplement added to preterm milk
Premature Formulas Pre-Discharge (24 Cal with increased amounts of protein, vitamins & minerals)2	Enfamil Premature 20, 24, 30	Mead Johnson Nutrition	Ready to Feed	2 oz.	Whey protein 60%, casein 40%; corn syrup solids, lactose, 40% of fat is MCT oil, increased protein, calcium, phosphorus, & vitamin D	Yes	Preterm/low birth weight infants with increased calorie, protein, vitamin, & mineral requirements. Prematurity/Low Birth Weight P07.2, P07.3, P07.10, P07.14-P07.18
	Similac Special Care 20, 24, or 30 with Iron	Abbott Nutrition	Ready to Feed	2 oz.	Nonfat milk, whey protein concentrate, corn syrup solids lactose, 50% of fat is MCT, Lutein, increased protein, calcium, phosphorus, & vitamin D	Yes	Preterm/low birth weight infants with increased calorie, protein, vitamin, & mineral requirements. Prematurity/Low Birth Weight P07.2, P07.3, P07.10, P07.14-P07.18
Transitional Formulas Post-Discharge (22 Cal with increased amounts of protein, vitamins & minerals)2	Enfamil NeuroPro Enfacare	Mead Johnson Nutrition	Powder1	12.8 oz.	Nonfat milk, whey protein concentrate, corn syrup solids, lactose, MCT oil, Lutein, increased calcium, phosphorus, & vitamin D	Yes	Preterm/low birth weight infants with increased calorie, vitamin, & mineral requirements. Prematurity/Low Birth Weight P07.2, P07.3, P07.10, P07.14-P07.18
			Ready to Feed	2 oz.			
				8 oz.			
				32 oz.			
	Similac Neosure	Abbott Nutrition	Powder1	13.1 oz.	Nonfat milk, whey protein concentrate, corn syrup solids, lactose, MCT Oil, increased calcium, phosphorus, & vitamin D	Yes	Preterm/low birth weight infants with increased calorie, vitamin, & mineral requirements. Prematurity/Low Birth Weight P07.2, P07.3, P07.10, P07.14-P07.18
			Ready to Feed	2 oz.			
				1 qt.			

1 Powdered formulas are not sterile & should not be fed to premature infants or infants who might have immune problems unless directed and supervised by a physician. Taylor, CJ Health Professionals Letter on Enterobacter sakazakii Infections Associated with the Use of Powdered (Dry) Infant Formulas in Neonatal Intensive Care Units. April 11, 2002. US Food and Drug Administration, Center for Food Safety and Applied Nutrition, Office of Nutritional Products, Labeling and Dietary Supplements. Available at <http://www.fda.gov/Food/FoodSafety/Product-SpecificInformation/InfantFormula/AlertsSafetyInformation/ucm111299.htm>

2 To bridge the change from preterm to standard infant formulas in formula-fed infants, "transitional" formulas with intermediate nutrient density have been developed for feeding the preterm infant as weight approaches 2000 g and the time of hospital discharge nears. These formulas may be mixed to 22 or 24 kcal/oz. In general, there is a paucity of data on what to feed the preterm infant after hospital discharge, especially if the goal is to achieve "catch-up" growth. How fast these preterm infants (and especially those born small for gestational age) should demonstrate catch-up growth after hospital discharge is an area of critical need of research given the increased risk of these infants developing metabolic syndrome later in life. Pediatric Nutrition Handbook, AAP 2009

Adapted from Source: Nutrition4Kids.com Stanley Cohen MD and Bailey Koch, RD, CSP



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Updated November 2019

