Factors that may cause or contribute to inadequate milk intake in newborns

Factors	Comments/explanation/examples	Management

Breast/chest surgery	▪ May affect milk production:
	  ▪ Breast/chest reduction surgeries have varying impact on milk supply depending on surgical technique, location of incisions, amount of tissue removed, and healing.
	  ▪ Nipple eversion surgeries
	  ▪ Gender affirming surgeries
	▪ Possibly may affect milk production:
	  ▪ Breast/chest augmentation
	▪ Unlikely to affect milk production:
	  ▪ Breast/chest biopsy
	  ▪ Nipple piercing
	  ▪ Persistent nipple pain
		▪ Optimize breast/chest feeding technique while monitoring infant's weight, supporting infant's age appropriate nutritional needs, and supporting the parent's milk production.
		▪ Prior to supplementation a complete feeding assessment should include all three components of the feeding relationship: parent, infant, and feeding.

Nipple conditions	▪ Sore nipples may be a result of suboptimal latching.
	Sore nipples may lead to decreased milk supply as a result of:
	  ▪ Hormonal responses to pain
	  ▪ Infrequent feeds
	  ▪ Inadequate milk transfer
	  ▪ Nipple trauma and pain may result from incorrect pumping or manual expression of milk.
	  ▪ Nipple anomalies (e.g., long, large, flat, or inverted) may affect newborn ability to latch or remove milk effectively.
		▪ Assess cause and improve latching and milk expression technique.
		▪ Optimize nipple care; principles of closed, moist wound healing
		▪ Assess for ankyloglossia (tongue-tie)

Medications associated with decreased milk production*	▪ Listed below are common examples:
	  ▪ Combination oral contraceptive pills with high estrogen content
	  ▪ Progestin only contraceptives, including IUS in some individuals
	  ▪ Pseudoephedrine
	  ▪ Nicotine
	  ▪ Diuretics
	  ▪ Alcohol — excessive use may decrease milk supply
	  ▪ Antihistamines
		▪ Optimize breast/chest feeding technique; support milk production and consider alternative medication if possible.
		Refer to the LactMed database*: https://www.ncbi.nlm.nih.gov/books/NBK501922/

Hormonal	▪ Insufficient breast tissue due to congenital decreased glandular development ▪ Stress, obesity, preeclampsia, hypertension, diabetes, hypothyroidism, PCOS** and elevated androgen levels can delay full milk production (lactogenesis II). ▪ Pituitary insufficiency due to postpartum pituitary infarction (Sheehan syndrome) ▪ Retained placental fragments	▪ Optimize feeding technique while monitoring infant's weight gain closely***. ▪ Assess for the cause and treat if possible. The degree to which these factors affect milk production and ability to breast/chest feed varies with the cause and severity.
Infant	▪ Birth trauma ▪ Neonatal abstinence syndrome ▪ Prematurity ▪ Ankyloglossia (tongue-tie) ▪ Neuromotor delay ▪ Sucking and swallowing disorders ▪ Malformations of the lip and palate, including cleft lip and/or palate	▪ Take a feeding history. ▪ Optimize feeding technique and support milk production. ▪ Ankyloglossia (tongue-tie), should only be considered in conjunction with clinical feeding assessment. If indicated, frenotomies should be performed by a clinician experienced with the procedure, using appropriate analgesia.
Mother/ birthing parent and infant dyad	▪ Delayed breast/chest feeding initiation ▪ Labour analgesics and anesthesia ▪ Separation of mother/birthing parent and infant ▪ Ineffective feeding (position, latch, and milk transfer)	▪ Non-separation, responsive-cue based feeding, safe skin-to-skin contact. ▪ Optimize feeding technique and support milk production.

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Any time families present with feeding challenges consider referral to a lactation professional such as an IBCLC for further management, evaluation and prevention strategies. Refer to the Lactation and Newborn Feeding Support (Postpartum) Hub for additional management strategies.

* Refer to the LactMed database for information on specific medications. LactMed, produced by the National Library of Medicine, is a free, authoritative reference for lactation compatibility for prescription and over-the-counter drugs. It provides data on drug levels in human milk and infant serum, potential adverse effects on human milk feeding newborns and lactation, and recommendations for alternative drugs. https://www.ncbi.nlm.nih.gov/books/NBK501922/

** PCOS: polycystic ovary syndrome

*** Weight loss considerations: If feeding assessment tools are used, additional assessment parameters must also be applied by HCPs to ensure effective feeding and milk transfer: elimination pattern, infant weight. Weight loss nomogram tools such as newborn weight loss tool (NEWT) nomogram, use percentiles of weight loss and should not be used to determine if supplementation is needed.

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