Breastfeeding Medicine: Optimizing Success and Evidence Based Management of the Lactating Patient

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Disclosures

I have no conflicts to declare.

I do not have any formal training in BFM, but have learned a lot via trial and error and mentorship through the international community of breastfeeding physicians “Dr. Milk”.

Objectives

- To equip primary care and obstetrical providers to help patients optimize their chances of success in direct breast feeding
- Review the resources available in Muskoka for support of BF'ing patients
- To ensure we as a medical community are applying EBM to the care of our lactating patients in the areas of mental health, peri-surgical care, breast imaging, mastitis and antibiotic/analgesic prescriptions

Breastfeeding (BF) Benefits to Baby

Any BF	BF ≥ 3 months	BF ≥ 4 months	BF ≥ 6 months
GI Illnesses 64% reduction benefits last even 2 months after BF stops!	**Otitis Media** 50% reduction	**Lower Respiratory Tract Infection** 72% reduction	**Serious colds, throat infections** 63% reduction
NEC 58% reduction	**Asthma, Atopic Dermatitis, Eczema** 27% reduction in low-risk 42% reduction with family history	**RSV Bronchiolitis** 74% reduction	**Celiac Disease** 52% reduction if BF at that the time of introduction to gluten
Otitis Media 23% reduction	**IDDM** 30% reduction		**Picky Eating** 75% less likely
SIDS 50% reduction (independent of sleeping position)	**NIDDM** 40% reduction		
Inflammatory Bowel Disease 31% reduction	**Picky Eating** 59% less likely		
Obesity 15 – 30% reduction			

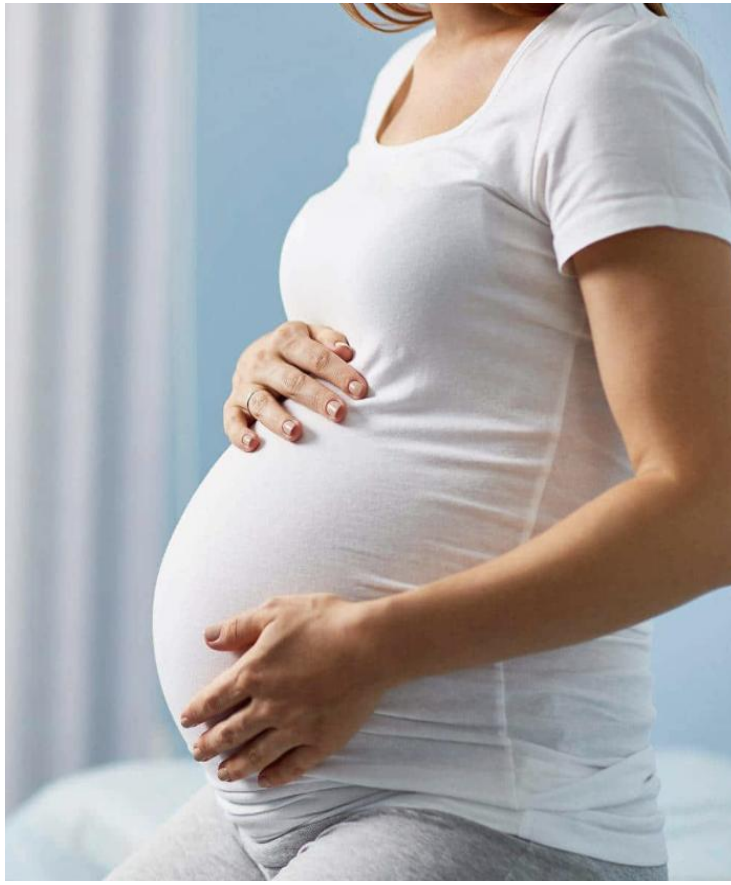
S. Vanguri, MD, Breastfeeding in the ED, Presentation

Breastfeeding (BF) Benefits to Premature Babies

- Lower rates of NEC
- Lower rates of sepsis
- Lower rates of ROP
- Faster attainment of enteral feeds
- Improved neurodevelopmental outcomes
- Lower rates of metabolic syndrome
- Lower blood pressure
- Lower LDL Levels
- Improved leptin and insulin metabolism

Case 1

Alex is a healthy 30 year old female, G2T1P2A0L1, who is currently 28 weeks pregnant. You are seeing her for a routine pre-natal visit. There are no medical concerns at present with her pregnancy. She is asking if there is anything she can do to improve her chances of successfully being able to breastfeed this time, as her first baby was jaundiced and she had to top up with formula, then struggled with poor supply and ultimately formula fed her first child. She is really hoping to breastfeed this time and looking for any advice or resources you can offer.

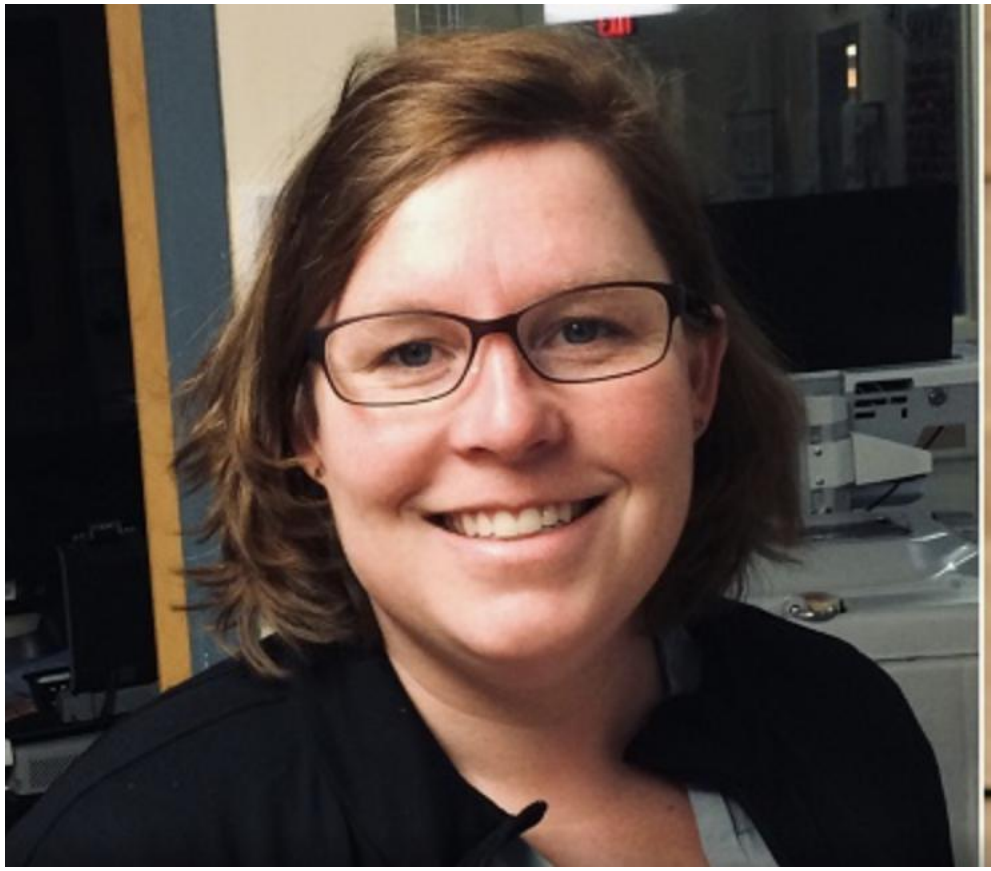


Risk Factors for Supply Issues/Delayed Milk

- DM2 / PCOS / insulin resistance
- Previous breast reduction
- PPH
- First baby
- Preterm delivery
- Retained products
- Topping up feeds without triple feeding
- Interruptions to the golden hour
- Latch difficulties/tongue ties

- Pre-natal referral to **lactation consultant**
- Refer to website **firstdroplets.com**
- Educate on:
  - Pre-natal colostrum collection (starting at 36w) if no CI and the utility of learning hand expression
  - The golden hour (and legit reasons it's sometimes not possible)
  - Role of frequent emptying in establishing supply (and importance of triple feeds if top ups are needed)
  - Importance of paced bottle feeding and use of slow flow nipples if supplementation is needed
  - Need to use properly sized flanges if pumping

Our Local Lactation Consultants



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Breastfeeding Medicine Physicians

- Dr. Margaret Kazanczuk
  - In person in Barrie, OHIP covered BFM + LC
- Maple Kidz/Dr. Pooja Prabhu
  - In person in TO or online; fully OHIP covered BFM + LC
- Toronto Breastfeeding Medicine Clinic
  - Online appt, private pay
- Kindercare
  - Referral online and through Ocean
  - Mixed model (OHIP covered MD, private pay LC)
  - In person appt in TO
- Ontario Breastfeeding Clinic
  - Online appt, mixed model (OHIP + private)

Case 2: Acute illness in mom

Sarah is a healthy 30yF who is 6 weeks postpartum from an uncomplicated SVD of a healthy term infant, whom she is exclusively breastfeeding. She presents with 2 days of fever and abdominal pain, which began periumbilically and has now settled in the RLQ. She is not septic appearing, and overall appears fairly well. There were no u/s techs available, so she had a CT abdo with contrast which confirmed the presence of appendicitis. In the ED she receives dilaudid, zofran, ceftriaxone and flagyl intravenously. While you are waiting for the general surgeon to come assess her, the patient's partner arrives with a screaming baby, and your patient asks if she is okay to breastfeed her infant?

Harms of pumping and dumping?

General Principals re: Medication Safety in Lactating Patients

- Consider age and health of infant
- Consider medication lactation category

- Remember that:
  - Medications with longer half life are more likely to accumulate in breast milk
  - Medications with better oral bioavailability are more likely to be absorbed systemically in infant
  - For most medications, RID<10% is considered safe

Lactation Risk Categories

L1	Compatible with BF	Large controlled studies demonstrating safety
L2	Probably compatible with BF	Smaller controlled studies demonstrating safety. Risk of harm is remote.
L3	Presumed compatible with BF	No controlled studies to demonstrate safety OR controlled studies demonstrate minimal non threatening side effects in infants.
L4	Potentially Hazardous	There is evidence of risk to infant or to milk supply, but benefits to mother may still outweigh risk in some situations
L5	Hazardous	Absolute contra-indication in BF.

Recommended Resources

- Infant Risk app ($19.99/year subscription)
- LactMed (https://www.ncbi.nlm.nih.gov/books/NBK501922/
- E-lactancia.org
- Academy of Breastfeeding Medicine Clinical Protocols (www.bfmed.org/protocols)
- Colleagues (ie. FP-OBs, BF MDs)

Antibiotics

Class of Antibiotics	Lactation Class	Notes
Penicillins	L1 + L2	All considered safe, including piptaz
Cephalosporins	L1 + L2	All considered safe (1st-4th gen, PO & IV)
Vancomycin	L1	Safe
Flagyl	L2	Safe
Clindamycin	L2	Safe, very low RID
Septra	L3	Avoid in young infants d/t incr risk of jaundice Probably fine in older infants
Macrolides		Azithro = L2 Clarithro & erythro = L3
Carbapenams	L2 + L3	Probably fine, very low levels in BM, very very low RID, categorized as L2/3 simply because no large studies
Nitrofurantoin	L2	Use with caution if infant < 1 month old due to incr risk of jaundice

Source: InfantRisk

Analgesics

Drug/Class	Lactation Class	Notes
Tylenol	L1	Safe
NSAIDS	L1-3	Avoid higher doses of ASA d/t theoretical risk of Reyes syndrome in infant. Low dose is ok. Only need to avoid if infant has ductal dependent cardiac lesion Ibuprofen has most robust safety data.
Local Anesthesia	L2	Safe
Gabapentinoids	L2-3	Short term, single use considered safe Gabapentin = L2 (preferred over pregablin, L3)
Ketamine	L3	No data, but very rapid re-distribution phase so unlikely to accumulate in BM. RID unlikely to be significant esp at analgesic doses
Recommended Opiods: - morphine - hydromorphone	L3	Risk is of sedation apnea, so though generally safe, need to take into account: - term vs preterm infant - dose and frequency
Opiods recommended to avoid: - demerol - codeine - tramadol	L3-L4	Codiene and tramadol may be okay, esp in older infants, but there are some theoretical concerns about CYP 2D6 metabolism in infants and conflicting evidence

Imaging/Contrast

Modality/Type of Contrast	Recommendation	Rationale
CT with iodated contrast	No need to interrupt BF	<1% maternal dose excreted in BM Poor bioavailability in infant Infant systemically abosrbs <1% of dose they would be given for a contrast study in infant
MRI with gadolinium	No need to interrupt BF	<0.04% excreted in BM <1% of what's in BM is absorbed by infant
Nuclear Medicine Study	It depends on the radioactive tracer being used	
Barium	No need to interrupt BF	Not orally absorbed by infant at all.

Nuclear Medicine

Common Nuclear Medicine Imaging Agents

Interruption recommended

- Thyroid Imaging
  - I-131: cessation for this infant
  - I-123: varies, up to 3 weeks
  - Tc-99m pertechnetate: up to 24 hours, depending on dose
- MUGA
  - Tc-99m RBCs in vivo: Up to 12 hours, depending on dose
- VQ Scan
  - Tc-99m MAA: 12 hours

No interruption recommended

- Noncontrast radiographs
- Nonvascular administration of iodinated contrast
- CT with iodinated IV contrast
- MRI with gadolinium-based IV contrast
- PET
- Bone scan
- Renal imaging: Tc-99m DTPA, MAG3, DMSA, glucoheptonate
- Cardiac imaging: T-99m Sestamibi, Tetrofosmin
- MUGA: Tc-99m RBCs in vitro
- Breast imaging
  - Screening or diagnostic mammography
  - Ultrasound
  - MRI with gadolinium-based IV contrast

Adapted from ABM Protocol #31 2019

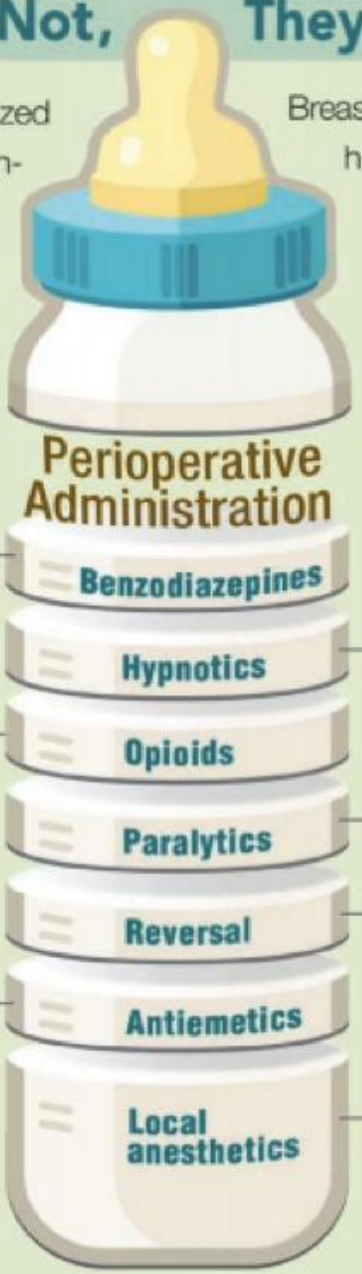
Case 2b: Peri-operative BF

The general surgeon sees the patient and confirms that an appendectomy is needed, and that if all goes well the patient can be discharged home postop. Sarah's only question is whether she can breastfeed after surgery. What do you say?

Anesthesia & Breastfeeding:
More Often Than Not, They Are Compatible

In this issue, Lee *et al.*[2] randomized laboring patients to different concentrations of epidural fentanyl. There was no difference in successful breastfeeding outcomes at 6 weeks.

Breastfeeding is important to infant health. Receiving anesthesia should not affect mom's ability to breastfeed, or the safety of her breastmilk.[1-4]



- *Midazolam* — PROCEED
- *Fentanyl (single dose IV)* — PROCEED
- *Morphine* — Monitor closely
- *Hydromorphone* — Monitor closely
- *Meperidine* — AVOID
- *Ondansetron* — PROCEED
- *Dexamethasone* — PROCEED
- *Metoclopramide* — PROCEED
- *Propofol* — PROCEED
- *Etomidate* — PROCEED
- *Ketamine* — No Data
- *Volatile anesthetics* — PROCEED
- *Succinylcholine* — PROCEED
- *NMBAs* — PROCEED
- *Neostigmine / glycopyrrolate* — PROCEED
- *Lidocaine* — PROCEED
- *Bupivicaine* — PROCEED

"A general principal is that a mother can resume breastfeeding once she is awake, stable, and alert after anesthesia has been given."[2]

What medications are actually contra-indicated in BF?

	Caution	Contra-indicated
Psych Drugs	Fluoxetine Venlafaxine Buproprion Abilify Clonazapam	Lithium
Cardiac Drugs	ACEI/ARBS (concern is specific to the first 6 weeks)	Amiodarone Atenolol
Chemo/Immune modulators		Methotrexate Most chemotherapy agents
Radioactive Tracers		I-131, I-123, Tc-99m
Drugs of Abuse	Opiod Abuse/Replacement	THC/CBD
Diabetic Meds	GLP-1s	SGLT-2s

ABFM Protocol on Mastitis Management

NSAIDs Ice Sunflower lecithin Selective use of antibiotics (fails rx or looks SICK) Consider imaging to r/o abscess in bacterial mastitis	Aggressively massage Apply heat Automatic antibiotics Pump & Dump Dangle feeds Epsom salt hakaa soaks