



Milk Matters: Team-Based Learning in Early Medical Education



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Learning Objectives

- Describe the development and implementation of a structured, case-based breastfeeding session within a required Family Medicine Clerkship
- Highlight strategies for problem-based learning and resource utilization.
- Identify and discuss high-yield topics relevant to early medical students to dispel common myths and address knowledge gaps, fostering a stronger foundation for future physicians across all specialties.

MCH Curriculum

- Invited in 2024 to help with a Maternal-Child Health Curriculum in Family Medicine
 - Breastfeeding not elsewhere in the previous med student curriculum (including in pediatrics or obstetrics)
- Structure:
 - 1.5 hours for prenatal/postpartum/neonatal care basics
 - 1.5 hours for a breastfeeding curriculum
 - Half for clinical vignettes/Half for interactive cases
- Who:
 - M2 students on their longitudinal family medicine rotation
 - 60-70 students in each cohort – lectures given 3x annually by us (and one remotely by MCW – GB)
 - Team-Based Learning and Case-Based format

Team-Based Learning Structure

- Students are given prework assignments
 - *No Shame, No Blame, The Art of Talking with Breastfeeding Mothers*
- Clinical Vignette Group Work (standard FM curriculum model)
 - 15 minutes at the start of our session
 - Small groups of 8 students each (around 8 groups)
 - Groups 1-4 answer Case #1, Groups 5-8 answer Case #2
 - Groups complete a mutual PowerPoint slide with case prompts
 - Students use online resources to answer questions
 - Each group shares their responses to the prompts to the rest of the audience

Why Team-Based Learning?

- Interactive
- Encourages group-thought
- Students utilize resources as they would in the clinical setting
- Answers can be variable
- Incorporates holistic care and attention to SDOH early in training

Clinical Vignette Response Categories

Evidence based medicine

- Response must reference appropriate external resources.

Clinical reasoning

- Response can be “an” appropriate approach, not “the” appropriate approach, but should be backed by evidence

Patient-centered

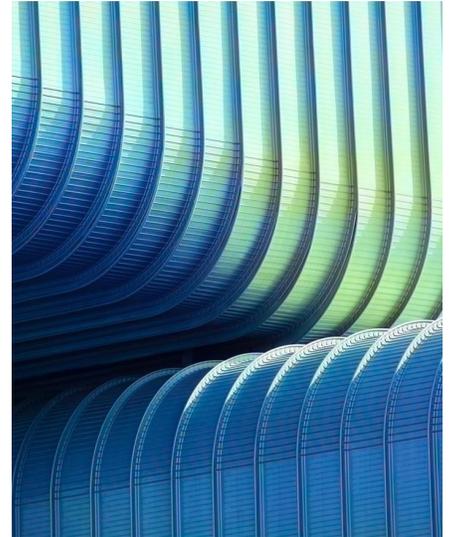
- Response should incorporate 1 key question student would like to ask the patient, and why the corresponding response may change the approach.

Impacting Social Determinants of Health

- Response should reflect on perceived barriers to care or deficiencies in SDOH

Holistic approach

- Response must address at least one environmental or lifestyle modification



Content Selection Goals

1

Emphasize the basics and learn normal vs abnormal

2

Focus on material that every physician should know

3

Dispel myths across specialties

4

Ensure medical students know where to find RELIABLE resources related to breastfeeding

MCH Learning Objectives

After completing this curriculum, students will be able to:

- Understand benefits of breastfeeding and normal patterns of breastfeeding
- Explain contraindications to breastfeeding untreated maternal HIV, HSV on breast, tuberculosis, substance abuse or galactosemia
- Describe basic principles of operating breast pumps and milk storage guidelines
- Counsel patients on medical indications for formula supplementation and how to use effectively without compromising breastfeeding goals
- Recite two reliable sources of information for medication use while breastfeeding
- Evaluate for common reasons for nipple pain in the first week postpartum
- Discuss evaluation and treatment of mastitis
- Know and list three community resources for new parents

Clinical Vignette #1 at a Glance

- Molly is a G1P0 patient at 36 weeks gestation who presents to your office. She has a history of chronic Hepatitis B and genital HSV without any symptoms. Her pregnancy has otherwise been uncomplicated. She would like to discuss her plan to feed her baby.
 - *Is breastfeeding recommended? For how long?*
 - *What are the benefits of breastfeeding for Molly and her infant?*
 - *What are the contraindications to breastfeeding?*
 - *What are normal newborn breastfeeding patterns? What should Molly expect in the first few days?*

Structure of Clinical Vignette #1

- Clinical reasoning supported by evidence-based medicine resources
 - AAP Policy Statement - Breastfeeding and the Use of Human Milk, ABM clinical protocols, WHO, CDC guidelines, LactMed
 - Goal: Identify and utilize reputable, evidence-based breastfeeding resources
- Patient centered discussion and recommendations
 - "Tell me what you know about breastfeeding"; "What is most important to you when feeding your baby?"
 - Goal: Initiate conversations using open-ended, patient-centered prompts
- Discuss social determinants of health that impact breastfeeding
 - Access to care, paid family leave, family or community support, cultural influences, etc.
 - Goal: Identify and describe key social determinants of health that influence breastfeeding
- Holistic approach to breastfeeding
 - Environmental factors or lifestyle modifications including maternal mental health, maternal rest, nutrition, hydration, stress reduction, safe medications, etc.
 - Goal: Understand the importance of a holistic approach to breastfeeding and counsel families on lifestyle modifications that support breastfeeding

Content of Clinical Vignette #1

- Slide Content
 - Goal: Increase medical knowledge of core breastfeeding principles
 - Review current breastfeeding recommendations
 - Components of breast milk and benefits of breastfeeding
 - Interventions to support breastfeeding in newborn period
 - Normal newborn feeding patterns
 - Contraindications to breastfeeding

Clinical Vignette #2 at a glance

- Molly returns to clinic when her daughter Ruby is 2 months old. Molly has been directly breastfeeding Ruby every 2-4 hours without pain, and Ruby is gaining weight appropriately. Molly returns to work in a few weeks, and she doesn't have a breast pump yet. She would like to discuss pumping and supplementation.
 - *Which type of breast pump do you recommend? Can Molly pump at work?*
 - *How should pumped milk be stored?*
 - *What are medical indications and options for supplementation?*
 - *How can Molly supplement without compromising her breastfeeding goals?*

Structure of Clinical Vignette #2

- Clinical reasoning supported by evidence-based medicine resources
 - ABM clinical protocols #3, #5, #8; WHO, CDC guidelines
 - Goal: Identify, access, and apply evidence-based resources to clinical-decision making
- Patient centered discussion and recommendations
 - "Tell me about your work environment"; "What are your feeding goals when you return to work?"
 - Goal: Demonstrate ability to elicit parental values, goals and barriers and practice shared decision-making
- Discuss social determinants of health that impact breastfeeding
 - Insufficient break time, pumping accommodations, job insecurity, unpredictable schedules, less access to milk storage supplies or breast pumps, limited knowledge about pumping and milk storage
 - Goal: Integrate awareness of social determinants into clinical counseling
- Holistic approach to breastfeeding
 - Maternal mental health, support systems, environmental factors
 - Goal: Understand importance of whole-person approach and how mental health affects feeding and lactation

Content of Clinical Vignette #2

- Slide Content
 - Goal: Understand PUMP Act and how to advocate for breastfeeding-friendly policies
 - Review PUMP Act
 - Goal: Increase medical knowledge of core breastfeeding principles including pumping, milk storage, and supplementation
 - Types of breast pumps and factors when choosing
 - Recommended frequency and duration of pumping
 - Human milk storage guidelines
 - Indications for supplementation
 - How to supplement without compromising breastfeeding goals

Part 2 – Clinical Cases

- Case-based format without the clinical vignette structure
- Flexible presentation
 - Built to share as a large group or break into small groups (based on time)
 - Prefer small groups when possible (students really don't have much baseline knowledge here so Socratic method is more difficult)
 - If small groups, give 10 minutes for groups to work on different cases
 - If small groups, give students the best resources while they are working
 - I.e. ABM protocols, medication resources
 - If large groups, these references are discussed while reviewing the slides
 - Answers not focused on vignette structure
- Focus on differentials in breastfeeding and clinical resources
 - Cases are simplified and not intended to be comprehensive

Structure of Case #1 at a Glance

Megan is 1 week postpartum. She has been breastfeeding exclusively, but she reports she is having pain with latching. Due to this, she has switched primarily to pumping yesterday. She is pumping 2 oz every 3 hours. Megan tells you that her goal is to direct feed whenever possible. On exam, bilateral nipples have cracks and are tender. Her daughter, Rose, is growing well.

- *What is the differential diagnosis for Megan's nipple pain?*
- *What treatment and local resources can be offered for Megan?*
- *Are there any disadvantages to pumping instead of direct feeding?*

Structure of Case #1 at a Glance

Slide Content:

- Review Top 5 differential diagnoses
 - Goal: Teaches med students to look for the common things
- Local Milwaukee resources for lactation support (4 included)
 - Goal: Teaches med students local resources so they remember there are options available
- Mention of pediatric OT and frenotomy
 - Goal: General awareness of early interventions that can be key
- Nipple wound care basics
 - Goal: Dispel myths about keeping the nipple dry
- Advantages/disadvantages of pumping
 - Goal: Emphasize to help patients meet their own goals
 - Goal: Emphasize awareness of pumping burden

Structure of Case #2 at a Glance

Ellie is 12 days postpartum. She has been breastfeeding exclusively. Her milk came in post-partum day 2. She reports her breasts have been extremely painful and swollen. Her term infant is no longer able to latch well and only does for a few minutes before coming back off the breast. Ellie had a temperature of 103 earlier today, and overall does not feel well. On exam, her left breast has an area of induration and erythema. It is very warm and tender.

- *What is her diagnosis?*
- *What would be the recommended treatment for her?*

Structure of Case #2 at a Glance

Slide Content:

- Pathophysiology of Engorgement/Mastitis
 - Goal: General Medical Knowledge for future acute care physicians
- Review Treatment of Engorgement
 - Goal: Reference ABM protocol (and point out free resources here)
 - Goal: Dispel Myths/avoid future bad advice
- Review Medications for Mastitis
 - Goal: General Medical Knowledge for acute care physicians
- Tangent Slide: *Is it ok to take this medication while breastfeeding?*
 - Goal: Ensure med students know about medication resources are best (lactmed, infantrisk) no matter which specialty they choose
 - Goal: Stress importance of looking up meds rather than recommending the "pump and dump"
- Tangent Slide: *Which imaging is safe in breastfeeding?*
 - Goal: Ensure med students have general knowledge around safety of imaging and where to find resources no matter which specialty they choose

Structure of Case #3 at a Glance

Kiera is 7 weeks postpartum presenting for a postpartum visit. Things are going well for her, and she has returned to work this week. She is exclusively breastfeeding and pumping while at work every 3 hours. She remains amenorrheic.

You discuss family planning at this visit and interpregnancy spacing. She is not interested in becoming pregnant right now. She asks you what her options are to avoid pregnancy at this time.

Her son, Ashton, is growing well on their current feeding plan. He does not need any supplementation

- *Is exclusive breastfeeding effective at preventing pregnancy?*
- *If so, how effective is it compared to other methods?*
- *If not effective enough (or patient prefers hormones), which contraception options would be least likely to affect her milk supply?*

Structure of Case #3 at a Glance

Slide Content

- Review Lactational Amenorrheic Method
 - Goal: Increase awareness of this option but **with emphasis on criteria**
- Review CDC/WHO ratings of various contraception methods
 - Goal: Improve informed consent of postpartum contraception
 - Goal: Increase med student awareness of both charts

Final MCH Lecture Slide

- References slide
 - NOT a quick glaze over.
 - Emphasize these references as places to come back to
 - Academy of Breastfeeding Medicine Protocols

Thank you!

Questions?

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