BREASTFEEDING PROTOCOL #7:

Mastitis

Toronto Public Health

Background

In 2018, a partnership was formed with the Baby-Friendly Initiative (BFI) Strategy for Ontario and Toronto East Health Network (TEHN) to update and revise the Breastfeeding (BF) Protocols for Health Care Providers to create a current and evidence informed resource. With the support of partner organizations and service providers, five BF Protocols were revised and released in 2019 and early 2020. This project was then paused due to the COVID-19 Pandemic.

In 2024, TPH resumed work on the protocols independently with acknowledgement from TEHN. TPH has reviewed and updated protocol content and references based on current breastfeeding resource information. Resources used in this review include Government references, breastfeeding texts, medication use during lactation guides and websites, and recognized organizations such as Academy of Breastfeeding Medicine and La Leche League.

Use of this Protocol

This Protocol is intended to support evidence-informed clinical practice. This Protocol may be copied or printed for the purpose of educating health care professionals, provided the authors are acknowledged and content is not altered, nor used or reproduced for commercial gains.

Disclaimer

This Protocol is a guideline. Every breastfeeding dyad and their circumstances must be assessed on an individual basis. In doing so, health care providers use their own professional judgement along with the evidence in assessing the care and support that the family needs. At times, consultation with another breastfeeding expert or advice from a medical practitioner, e.g., physician, midwife, or nurse practitioner, will be required.

Breast milk/breastfeed/breastfeeding are also known as human milk/chestfeed/chestfeeding respectively and can be used interchangeably. Please note the term ‘mother’ may be used in some resources however, the content is intended for all parents and caregivers.

Acknowledgements

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Protocol #7: Mastitis

Mastitis is an inflammatory condition of the breast tissue that may or may not be accompanied by infection. While the risk of developing mastitis is highest in the first few weeks postpartum, mastitis can develop at any stage of lactation. It is important to distinguish between inflammatory and bacterial/infectious mastitis. Inflammatory mastitis may resolve without the use of antibiotics if managed appropriately. Infectious mastitis occurs when the initial inflammation progresses to cellulitis of the skin and infection of underlying breast tissue. (Spencer et. al., 2022). If systemic symptoms such as fever or tachycardia persist or worsen after 24 hours of trying more conservative treatment measures, or the breastfeeding parent is feeling very ill, they should seek medical care, as antibiotic treatment may be required (ABM Protocol #36, 2022).

Observation and Assessment

Symptoms may include:

- Redness, swelling/edema, induration.
- Possible red streaks and/or shiny breasts.
- Breasts that feel hot and are painful.
- Flu-like symptoms, e.g., chills, muscle aches, fatigue.
- Fever >38.4°C (>101°F) is common.
- Possible sudden onset of symptoms.
- Unilateral breast symptoms that may be localized or involve the entire breast. Symptoms often present in the upper, outer quadrant but may occur anywhere, including under the axilla.
- Bilateral breast symptoms are rare and may be due to other underlying conditions. Follow up with a health care provider is recommended.
  (Adapted from: Spencer, Campbell, and Chamberlain 2022, ABM Protocol #36, 2022, Lawrence 2022, Mohrbacher, 2020, Wambach and Spencer 2024, Walker, 2023)

Possible Contributing Factors or Causes

Assess the mother for:

- Inadequate breast milk removal.
- Nipple shield use. Nipple shields can affect how infants suck and remove milk from the breast.
- Stress and fatigue.
- Engorgement and breast milk stasis (*Protocol #5: Engorgement*).

- Plugged ducts (*Protocol #6: Plugged Ducts*).
- Ineffective use of breast pumps.
- Overabundant breast milk supply (*Protocol #13: Overabundant Breast Milk Supply/Forceful Letdown or Breast Milk Ejection Reflex*).
- Sore, cracked nipples (*Protocol #4: Sore Nipples*).
- External pressure on the breast, e.g., from a constrictive bra or clothing, straps on a baby carrier, mother's finger pressing on breast, always sleeping on the same side, or always holding the baby the same way, continual compression of the breast when feeding.
- History of breast surgery or injury.
- Previous history of mastitis.

(Adapted from: Spencer, Campbell, and Chamberlain 2022, Lawrence, 2022, Wilson-Clay &Hoover, 2022, Mohrbacher, 2020, Walker, 2023, LLLI, 2023).

Assess the baby for:

- Ineffective attachment or suck (*Protocol #2: Positioning and Latching; Protocol #10: Ineffective Suck*).
- Infrequent, hurried, or shortened breastfeedings.
- Changes in infant feeding behaviour.
- Missed breastfeedings.
- Breast refusal/Nursing strike.
- Abrupt weaning.

Suggestions

1. Assess for possible cause(s) of the mastitis (see previous section on *Possible Contributing Factors or Causes*).

- If the mother has plugged ducts, refer to *Protocol #6: Plugged Ducts*.
- If the mother has sore or cracked nipples, refer to *Protocol #4: Sore Nipples*.
- If the mother's breasts are engorged or have breast milk stasis, refer to *Protocol #5: Engorgement*.
- If the mother has an overabundant breast milk supply, refer to *Protocol #13: Overabundant Breast Milk Supply/Forceful Letdown or Breast Milk Ejection Reflex*.

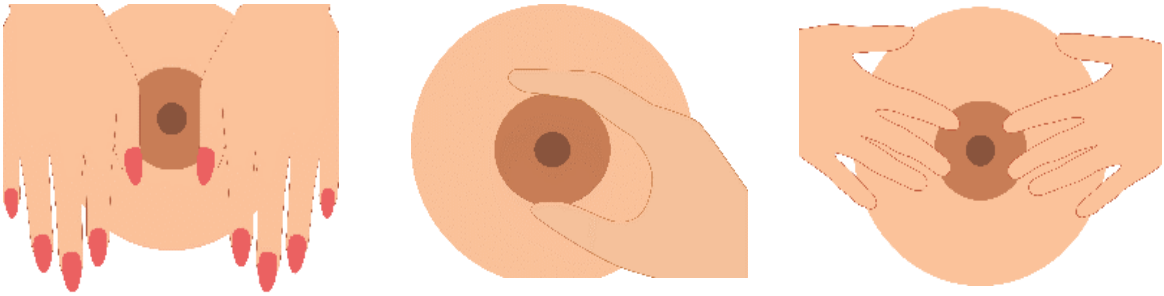
2. Provide the breastfeeding parent with the following guidance for breastfeeding with mastitis:

- Continue breastfeeding and promote effective breast milk removal.
- Ensure that the infant is correctly positioned and latched (*Protocol #2: Positioning and Latching*).
- Use reverse pressure softening to move any swelling away from the nipple and areola, to help the infant latch more easily.

Reverse Pressure Softening:

Reverse pressure softening may make it easier for infant to latch by pushing some of the swelling away from the nipple and areola.

- Place either fingers or fingertips around the base of the edematous nipple or areola to create a ring of dimples.
- Press gently into the breast holding the pressure for about 30-60 seconds. Move placement of hands on the areola and hold for another 30 to 60 seconds as needed.
- The gentle pressure applied around the nipple/areola will push the fluid back/upward into the breast and soften the areola to allow more effective latch.



- Ensure that infant is sucking and swallowing effectively with good milk transfer (*Protocol #3: Signs of Effective Breastfeeding*).
- Feed the baby only breast milk. Avoid supplementation unless medically indicated (*Protocol #17: Indications for Supplementation or Cessation of Breastfeeding*).
- Use heat/warm compress applied to back or shoulders for comfort and relaxation.
- Avoid deep massage of the lactating breast. Gentle handling of the breast is recommended to avoid further edema and inflammation.
- Offer the affected side first at each breastfeeding to ensure strong sucking and breast milk removal from the affected breast.
    - If too painful, offer the unaffected side first, to initiate a letdown then try affected side again.
    - If unable to latch on affected side, gently express the affected breast for relief and comfort. Only express the amount of milk the infant needs.
- Use a variety of breastfeeding positions to promote drainage.
- Feed the baby on demand but avoid trying to “empty” breasts. Overfeeding or excessive pumping of the affected breast may increase inflammation.
- Handle the breast gently to avoid further trauma, edema, or inflammation.
- Use gentle breast compressions (*Protocol #3, Signs of Effective Breastfeeding*) and gentle stroking of the breast during breastfeeding to support breastmilk flow if needed. Avoid continual breast compression, deep pressure and deep massage of the breast as this may increase inflammation.

Between breastfeedings, encourage the breastfeeding parent to:

- Rest as much as possible and eat and drink according to Eating Well with Canada's Food Guide (Health Canada, 2019). https://food-guide.canada.ca/en/
- Observe baby for early feeding cues to be able to breastfeed early and frequently:
  - when the baby is showing feeding cues, e.g., rapid eye movements under the eyelids, sucking/licking, hands to mouth, increased body movements, and making small sounds (*Protocol #1: The Initiation of Breastfeeding*).
  - before the baby is overly hungry or crying.
- Manage pain and swelling.
- If client is in pain, encourage a discussion with their healthcare provider about pain medication compatible with breastfeeding (LI category), such as ibuprofen, nonsteroidal anti-inflammatory analgesic (NSAID) that may also help reduce tissue swelling more quickly or acetaminophen, an analgesic/antipyretic used in the treatment of fever and pain (Mohrbacher 2020 & Hale 2023).
- Apply cold compresses if swelling or inflammation is present. Cold compresses can be more effective at reducing edema and inflammation.
- Wrap any cold packs in a cloth to protect the skin. Cold compresses can be applied every hour or more frequently if desired (limit cold exposure to 10-20 minutes at a time).
- Avoid the use of saline soaks, castor oil, or other products (ABM Protocol #36, 2022).
- Wear a supportive and well-fitting bra, avoiding underwire bras.
- Avoid placing prolonged pressure on the breasts, e.g., from a tight or underwire bra, straps on a baby carrier, always sleeping on one side, or always holding the baby the same way.
- Avoid pacifiers and bottles.
- Avoid missed or shortened breastfeedings.
  - Express breast milk if breastfeeding is missed or shortened.
  - If breasts become full and uncomfortable, small amounts of milk can be hand expressed between feeds to provide relief.

If the baby is unable to latch or breastfeed effectively, encourage the mother to:

- Gently express each breast if the infant is unable to latch or breastfeed effectively or if breastfeeding is too painful.
- If breastfeeding is stopped for any length of time, or the breastfeeding parent is separated from their infant, continue to pump or hand express each breast at least 8 times in 24 hours, including overnight. Express enough milk to meet the infant's needs, but avoid over-expressing, as this may lead to further congestion, swelling, and discomfort (*Protocol #19: Expressing and Storing Breast Milk*).
- Feed the baby the expressed breast milk using an alternative feeding method, e.g., cup, spoon, syringe, or finger feeding (*Protocol #18: Alternative Feeding Methods*). If expressed breast milk is not available, an appropriate supplement should be offered (*Protocol #17: Indications for Supplementation or Cessation of Breastfeeding)*.
- Attend a breastfeeding clinic or see a breastfeeding expert for further assessment as soon as possible.

Antibiotic treatment:

- If systemic symptoms such as fever or tachycardia persist or worsen after 24 hours of trying more conservative treatment measures as listed above, or the breastfeeding parent is feeling very ill, they should seek medical care, as antibiotic treatment may be required (ABM Protocol #36, 2022).
- Antibiotic treatment, e.g., cephalexin, cefaclor, cloxacillin, flucloxacillin, amoxicillin, clavulin acid, clindamycin, and ciprofloxacin is usually effective against Staphylococcus aureus. Clindamycin and ciprofloxacin are effective for mothers allergic to penicillin.
- Antibiotics are usually prescribed for 10-14 days, and the breastfeeding parent should finish the full course or medication. Intravenous antibiotics and further investigation may be required if the infection is not improving with oral antibiotics.
- Breastfeeding can and should continue together with any of the above antibiotics. Abrupt discontinuation of breastfeeding for any length of time without regular expression to effectively remove breast milk from the mother's breasts can lead to further complications such as plugged ducts, prolonged or recurrent mastitis, or a breast abscess.
- Poorly managed mastitis may develop into an abscess. A small percentage of breastfeeding parents with mastitis develop an abscess and will need to seek medical attention to remove the collection of pus.
- **Breast abscesses**
  Breast abscesses require drainage. Needle aspiration is often used for initial management; however, this practice may need to be repeated many times. Inserting a drain to allow for continuous drainage may be more effective than frequent aspirations (Spencer et. al., 2022, ABM Protocol #36, 2022).
- Some abscesses may open and drain on their own through the skin and others may require surgery (LLLI, 2023).
- During treatment, effective pain management should be encouraged, and breastfeeding can continue.
- **Recurrent mastitis**
  Recurrent mastitis requires further investigation. Inquire about initial episode including how it was treated, whether symptoms resolved, if treatment was stopped early, and if there are any unresolved predisposing factors.
- Multiple recurrences in the same location require further investigation and radiology evaluation to rule out an underlying mass or other abnormality (ABM Protocol #36, 2022).
- Inflammatory breast cancer is highly aggressive, and any suspicion of it requires an immediate referral to a healthcare provider for further evaluation. Additionally, breast masses that occur during lactation should be carefully assessed as breast cancer in young breastfeeding parents is on the rise (ABM Protocol #36, 2022, Spencer et.al., 2022).
- Spencer et. al., 2022 state that ultrasound is the preferred method to determine if a mass is cystic or solid. Mammogram and MRI may also be recommended. The radiologist should be informed if the parent is breastfeeding for more accurate test interpretation. In most cases, breastfeeding can continue safely.

General Principles

- Lactational mastitis is considered part of a spectrum of inflammatory conditions resulting from a progression of ductal narrowing, inflammation, edema, and breast milk congestion that is poorly managed (ABM Protocol #36, 2022).
- Optimize latch and position to ensure effective breast milk removal to assist in preventing breast milk stasis.
- Feed the infant on demand, and don't try to "empty" the breasts.
- Engorgement and milk stasis can increase the risk of mastitis. Additionally, excessive pumping and overfeeding can lead to hyperlactation.
- Hyperlactation has been identified as a primary underlying risk factor for mastitis (ABM Protocol #36, 2022).
- Prompt effective treatment and management of inflammatory progression in the breast is key.
- Non-infectious mastitis can possibly be managed by effective breastfeeding strategies alone with effective removal of breast milk.
- The most common organisms that cause bacterial/infectious mastitis are Staphylococcus and Staphylococcus and Streptococcus. If infectious symptoms don't begin to subside after 48 hours of treatment, milk cultures can be done to rule out MRSA or identify uncommon pathogens (ABM Protocol #36, 2022, Spencer et.al., 2022, Wambach & Spencer, 2024).
- Candidiasis may occur following antibiotic treatment for mastitis and breastfeeding parents can be informed to monitor for symptoms *(Protocol #15: Candidiasis (Thrush)*).
- The composition of breast milk changes during a breast infection, including:
    - An increase in anti-inflammatory components such as lactoferrin and secretory immunoglobulin A increase to protect the baby from mastitic milk (Buescher, 2001 in Riordan 2024).
    - An elevation of sodium and chloride levels because the tight junctions between secretory cells temporarily open. This can make the breastmilk taste salty, and the change in flavour change may affect the baby's feeding behaviour.
- After mastitis is resolved it is common for the affected breast to temporarily produce less breast milk then it did before. With effective breastfeeding management, milk production can gradually return to usual levels as the breast recovers.
- For more detailed information on the Mastitis Spectrum, refer to the Academy of Breastfeeding Medicine Clinical Protocol #36.

References and Resources

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