



Key points

- Continuing to breastfeed and /or express breast milk is important for the management of mastitis
- Stopping breastfeeding is rarely required
- Mastitis is common in breastfeeding women
- Prompt accurate diagnosis and treatment is important for health of mother and baby as delay in care may increase severity and risk of premature cessation of breastfeeding

1. Purpose

This document outlines the guidelines for pharmacological and non-pharmacological management of mastitis and breast abscess at the Women's. This guideline is related to the [Breastfeeding Policy](#).

2. Definitions

Mastitis is an inflammation of the breast tissue which may or may not be associated with a bacterial infection.² In infective mastitis, *Staphylococcus aureus* is the most common pathogen. Less commonly, the pathogen may be a *beta-haemolytic Streptococcus* (such as Group A or Group B streptococcus) or *Escherichia coli*. Community-acquired methicillin-resistant *S. aureus* (MRSA) is increasingly being identified as the causative pathogen,³ although rates of MRSA remain relatively low in most parts of Australia.⁴

Breast abscess is a collection of pus in the breast, which may occur as a complication of mastitis.

Blocked ducts are an engorgement of an area of the breast but an infection is not necessarily be present. It may progress to mastitis

3. Responsibilities

All staff involved with the diagnosis and management of mastitis must be aware of this guideline to ensure the safe and appropriate management of mastitis and breast abscess. This includes doctors, lactation consultants, midwives, nurses and pharmacists.

4. Guideline

4.1 Incidence

The reported incidence of mastitis varies from 10 to 20% in the first six months postpartum.^{1, 5-6} Most episodes of mastitis occur in the first six weeks postpartum, but mastitis can occur at any time during breastfeeding.¹ About 3% of women with mastitis will develop a breast abscess.⁷

4.2 Predisposing factors:

Incomplete breast drainage due to:

- Missed, infrequent breastfeeds or long intervals between feeds
- Poor positioning and attachment
- Tongue-tie
- Infant illness
- Restrictive clothing/external pressure on the breast
- Trauma to breasts or nipples
- Engorgement and/or oversupply of milk
- Unresolved blocked ducts or white spot on the nipple (blocked nipple pore)
- Rapid or abrupt weaning



- Maternal stress, fatigue, illness

Risk factors for breast abscess:

Inadequately treated mastitis

Abrupt weaning during an episode of acute mastitis

4.3 Management of mastitis

Refer to [appendix 1](#) for 'Assessment and management of lactating women presenting with breast pain and possible mastitis' algorithm.

Diagnosis

The signs and symptoms may develop rapidly. The diagnosis of mastitis should be based on clinical symptoms and signs of inflammation:

Breast

- Red, hot, swollen and painful lump or wedge-shaped area or entirety of affected breast
- Skin may appear shiny and tight with red streaks
- Some/all of the breast symptoms will occur with blocked ducts (non-infective)

General

- Flu-like symptoms: lethargy, headache, myalgia, nausea and anxiety
- Fever (temperature $>38.5^{\circ}\text{C}$). Be aware the use of pain relief may be masking the existence of fever

Investigations

Routine investigations are not necessary. Investigations should be initiated if:

- Mastitis is severe, recurs or hospital acquired
- No response to antibiotics within 2 days
- Hospital admission is required

Investigations for severe mastitis, not responding to first-line antibiotics or requiring admission should include:

- Breast milk culture and sensitivity: hand-expressed midstream clean catch sample into sterile container (i.e. a small quantity of the initially expressed milk is discarded to avoid contamination with skin flora)⁸
- Full blood count (FBC)
- C-reactive protein (CRP)
- Other investigations to consider:
- Blood cultures should be considered if temperature $> 38.5^{\circ}\text{C}$
- Diagnostic ultrasound if an abscess is suspected.

Treatment of mastitis

Treatment should begin immediately

Maintain breastfeeding; mastitis is not an indication for, nor an appropriate time, to wean

Non-pharmacological treatment

Effective drainage of breast milk by breastfeeding and/or expressing is essential to maintain adequate milk supply and to reduce the risk of breast abscess formation.

If presenting symptoms are mild and localised, the woman may consider enhancing breast milk drainage:

- Physiological methods (e.g. expressing, massage and breastfeeding) to ensure optimal breast drainage



to assist with resolving mild mastitis without the use of antibiotics

- Ensure positioning and attachment to facilitate frequent and effective milk removal
- Gentle warmth may assist with let-down reflex therefore milk flow and breast drainage
- Apply cold pack after feeds to reduce pain and oedema
- Gentle breast compression/massage while breastfeeding/expressing may increase the breast milk drainage
- Avoid restrictive clothing/bra
- Refer to Lactation Consultant for appropriate feeding assessment and advice
- The woman will need rest, adequate fluids and good nutrition and practical domestic help if possible
- Monitor the adequacy of the milk supply for the infant by check of urine and bowel output, feed frequency and effectiveness and infant weight check. Depending on the severity of the mastitis short term supplemental feeds may need to be considered if the milk supply is significantly compromised.

Follow-up

Mother and baby should be reviewed according to the severity of the symptoms. Review with a lactation consultant or GP is advisable to check resolution of the mastitis has occurred and the milk supply is adequate for the baby

Pharmacological treatment

Breastfeeding women are often reluctant to take medicines; women should be reassured that the medicines listed in this guideline are compatible with breastfeeding.

Analgesia

Paracetamol is considered safe to be used by breastfeeding mothers. It is usually the medicine of choice for short-term analgesia and anti-pyretic. Maximum paracetamol dose is 4g per 24 hours.

Non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, may be effective in reducing symptoms relating to inflammation. Ibuprofen can be safely used while breastfeeding as only small amounts of this medicine are excreted into breast milk.

Antibiotics

If symptoms are not resolving within 12 to 24 hours with physiological methods or if presenting symptoms are moderate or severe, antibiotic treatment may be required (in conjunction with non-pharmacological measures).

Oral antibiotics should be continued for at least 5 days. Improvement should be seen within 2 to 3 days of antibiotic treatment. If improvement is slow, milk should be collected for culture and sensitivity.

Any baby whose mother is on antibiotic therapy should be monitored for systemic effects such as changes to the gastro-intestinal flora (with symptoms such as diarrhea, vomiting and thrush) or skin rashes.

Women who are very unwell and/or have signs of systemic sepsis may need to be admitted for intravenous (IV) antibiotics. IV antibiotics should be continued for at least 48 hours or until substantial clinical improvement is seen.

All medicines recommended in this guideline are considered unlikely to pose harm in the breastfed baby.

For further information about the safety of medicines in breastfeeding refer to The Women's Pregnancy and Breastfeeding Medicines Guide [database on the Internet]. The Royal Women's Hospital. Available from: www.thewomenspbmg.org.au.

See [table 1](#) for recommended antibiotic regimen



Table 1 Recommended antibiotic regimen

Recommended antibiotic regimen ⁹			
All listed antibiotics are compatible with breastfeeding			
First Choice			
Route	Drug	Side effects	Comments
Oral	Flucloxacillin (or dicloxacillin) 500mg 6 hourly for at least 5 days	Common – nausea, diarrhoea, rash Rare – anaphylactic shock, cholestatic jaundice	Monitor hepatic function if treatment continues for > 2 weeks, especially if there are other risk factors.
IV	Flucloxacillin (or dicloxacillin) 2g 6 hourly		
If allergic to penicillin (excluding immediate hypersensitivity):			
Route	Drug	Side effects	Comments
Oral	Cefalexin (cephalexin) 500mg 6 hourly for at least 5 days	Common – nausea, diarrhea, rash Rare – anaphylactic shock	Cefalexin (cephalexin) is usually prescribed for mastitis in women with a history of hypersensitivity to penicillin. About 2.5% of individuals with penicillin hypersensitivity have a cross-reaction to cephalosporins ⁹
IV	Cefazolin (cephazolin) 2g 8 hourly		
If there is a history of immediate penicillin hypersensitivity:			
Route	Drug	Side effects	Comments
Oral	Clindamycin 450mg 8 hourly for at least 5 days	Common – diarrhea, nausea, vomiting Rare – anaphylaxis, blood dyscrasias, jaundice	Used as a second choice when individuals cannot tolerate usual therapy.
IV	Clindamycin 600mg 8 hourly		
IV	Vancomycin 1.5g 12 hourly	Common– thrombophlebitis (IV) Rare –serious skin reactions.	Only use if pathogen is resistant to first-line antibiotic therapy.
If community acquired methicillin-resistant <i>S. aureus</i> (MRSA) mastitis is suspected :			
Route	Drug	Side effects	Comments
Oral	Clindamycin 450mg 8 hourly for 5 days	Common – diarrhea, nausea, vomiting Rare – anaphylaxis, blood dyscrasias, jaundice	Observe the breastfed baby for diarrhea, thrush or allergic reaction.
Oral	Trimethoprim+sulfamethoxazole 160+800 mg 12 hourly for 5 days	Common–Nausea, vomiting, anorexia and allergic skin reactions.	Use with extreme caution in breastfeeding mother with a preterm or critically sick baby and babies with G6PD deficiency.



4.4 Management of breast abscess

Diagnosis

In addition to the signs and symptoms of mastitis, there may be increased localised swelling, pain and tenderness at the site of the abscess. Women with an encapsulated abscess may present with no systemic symptoms but will present with a breast lump and usually describe a recent episode of mastitis.

Clinical examination alone may not be sufficient to exclude or confirm an abscess. The diagnosis and location should be confirmed by diagnostic ultrasound.

Treatment

Women with a breast abscess need to be referred without delay to a breast surgeon. The preferred management is needle aspiration; however surgical drainage is required in some cases.

Ensure breast milk and pus aspirate are collected for culture and sensitivity.

Continuation of breastfeeding or breast milk expression is both safe and recommended. The presence of a breast abscess is not an indication for, nor an appropriate time to wean.

Management of breastfeeding following aspiration/surgical drainage

Management of breast abscess following aspiration/surgical drainage is as per management of mastitis.

Positioning of the baby may need to be modified to avoid pressure on the aspiration/ incision site or interference with drain tube if in-situ.

If the baby is unable to feed directly from the affected breast, the breast should be kept well drained by frequent and effective expressing until the mother is able to resume breastfeeding from that breast.

Breast milk leaking from the incision site is not uncommon and will not prevent healing.

Refer to [appendix 1](#) for 'Assessment and management of lactating women presenting with breast pain and possible mastitis' algorithm

5. Evaluation, monitoring and reporting of compliance to this guideline

Compliance to this guideline will be monitored, evaluated and reported through the following:

Breastfeeding Service Lactation Consultants when called to provide consultations for women presenting to the Women's with mastitis will review the documented treatment plan to determine consistency with this guideline.

Where a treatment plan does not comply with this guideline, the LC will complete a clinical incident (Riskman) report.

The Breastfeeding Service will review all reported clinical incidents of non-compliance reported through the clinical incident (Riskman) program and develop an action plan to address issues as required.

6. References

1. Amir LH, Forster DA, Lumley J, McLachlan H. A descriptive study of mastitis in Australian breastfeeding women: incidence and determinants *BMC Public Health* 2007;7:62.
2. World Health Organization. *Mastitis: Causes and Management*. Geneva: WHO/FCH/ CAH/00.13, 2000.
3. Reddy P, Qi C, Zembower T, Noskin GA, Bolon M. Postpartum mastitis and community-acquired methicillin-resistant *Staphylococcus aureus*. *Emerg Infect Dis* 2007;13(2):298-301.
4. Loffler CA, Macdougall C. Update on prevalence and treatment of methicillin-resistant *Staphylococcus aureus* infections. *Expert Rev Anti Infect Ther* 2007;5(6):961-81.
5. Foxman B, D'Arcy H, Gillespie B, Bobo JK, Schwartz K. Lactation mastitis: occurrence and medical management among 946 breastfeeding women in the United States. *American Journal of Epidemiology* 2002;155(2):103-14.

Infant Feeding - Mastitis and Breast Abscess



the women's
the royal women's hospital

6. Thompson JF, Roberts CL, Currie M, Ellwood DA. Prevalence and persistence of health problems after childbirth: associations with parity and method of birth. *Birth* 2002;29(2):83-94.
7. Amir LH, Forster D, McLachlan H, Lumley J. Incidence of breast abscess in lactating women: report from an Australian cohort. *BJOG* 2004;111(12):1378-81.
8. Amir LH, The Academy of Breastfeeding Medicine Protocol Committee. [ABM Clinical Protocol # 4: Mastitis, Revision, March 2014. *Breastfeed Med* Volume 9, Number 5, 2014](#)
9. Mastitis and Antimicrobial hypersensitivity [revised 2014 Nov]. In: eTG complete [Internet]. Melbourne: Therapeutic Guidelines Limited; 2016 Nov.
10. Mann CF. Clindamycin and breast-feeding. *Pediatrics* 1980;66(6):1030-1.
11. Chua K, Laurent F, Coombs G, Grayson ML, Howden BP. Antimicrobial resistance: Not community-associated methicillin-resistant *Staphylococcus aureus* (CA-MRSA)! A clinician's guide to community MRSA - its evolving antimicrobial resistance and implications for therapy. *Clin Infect Dis* 2011;52(1):99-114.
12. The Women's Pregnancy and Breastfeeding Medicines Guide [database on the Internet]. The Royal Women's Hospital. Available from: www.thewomenspbmg.org.au. [cited 24/01/2017]

7. Legislation/Regulations related to this guideline

Not applicable.

8. Appendices

Appendix 1: ['Assessment and management of lactating women presenting with breast pain and possible mastitis' algorithm](#)

Appendix 2: [Mastitis: Consumer Fact Sheet](#)

Please ensure that you adhere to the below disclaimer:

PGP Disclaimer Statement

The Royal Women's Hospital Clinical Guidelines present statements of 'Best Practice' based on thorough evaluation of evidence and are intended for health professionals only. For practitioners outside the Women's this material is made available in good faith as a resource for use by health professionals to draw on in developing their own protocols, guided by published medical evidence. In doing so, practitioners should themselves be familiar with the literature and make their own interpretations of it.

Whilst appreciable care has been taken in the preparation of clinical guidelines which appear on this web page, the Royal Women's Hospital provides these as a service only and does not warrant the accuracy of these guidelines. Any representation implied or expressed concerning the efficacy, appropriateness or suitability of any treatment or product is expressly negated

In view of the possibility of human error and / or advances in medical knowledge, the Royal Women's Hospital cannot and does not warrant that the information contained in the guidelines is in every respect accurate or complete. Accordingly, the Royal Women's Hospital will not be held responsible or liable for any errors or omissions that may be found in any of the information at this site.

You are encouraged to consult other sources in order to confirm the information contained in any of the guidelines and, in the event that medical treatment is required, to take professional, expert advice from a legally qualified and appropriately experienced medical practitioner.

NOTE: Care should be taken when printing any clinical guideline from this site. Updates to these guidelines will take place as necessary. It is therefore advised that regular visits to this site will be needed to access the most current version of these guidelines.

Assessment and Management of Lactating Women Presenting With Breast Pain and Possible Mastitis Algorithm



Assessment and management of lactating women presenting with breast pain and possible mastitis

