

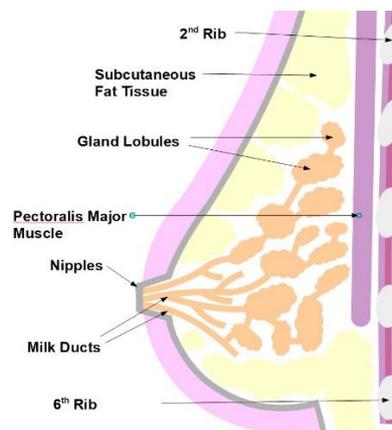


The Mastitis Spectrum

This information sheet is based on the [new guidelines from the Academy of Breastfeeding Medicine \(2022\)](#) but written in an accessible way for parents. I use the terms 'breast' and 'breastfeeding' throughout this information sheet, as does the ABM guidelines, because all humans have some breast tissue, unless it has been surgically removed. But I acknowledge that some people may use the terms 'chest' and 'chest feeding' and that some parents will be feeding human milk but not breast/chest feeding.

Mastitis encompasses a spectrum of conditions which occur in the presence of hyperlactation (too much milk) and/or mammary dysbiosis (disruption of the milk microbiome). Maternal genetics, medical conditions, exposure to antibiotics and probiotics, regular use of breast pumps and caesarean sections are all factors in dysbiosis.

The diagram below shows the structure of the breast. Milk is made within the alveoli (gland lobules) and then delivered to the nipple via a system of milk ducts.



'Mastitis' is the term used to describe inflammation of the breast and most commonly affects one segment of the breast. But it can affect the whole breast. The presence of too much milk coupled with disruption of the microbiome results in swelling due to the build up of fluid and increased blood flow. This swelling causes narrowing of the milk ducts.

A reduction in milk removal from the breast due to mum and baby being separated, missed feeds, and so on may result in an increase in breast pain and redness due to distention of the alveoli (milk sacs) and increased blood flow. But this will be self-limiting as the feedback inhibitor of lactation will activate to slow down the milk production.

Engorgement

Engorgement can resemble early inflammatory mastitis. It occurs when milk comes in usually at around day 3-5 after birth. But it may occur as late as 9-10 days after birth if milk production is delayed due to caesarean section or other factors.



Ductal narrowing ('blocked ducts')

This is caused by inflammation and narrowing of the milk ducts linked to distension of the milk sacs and/or mammary dysbiosis. It may present as a small discrete hard lump or as a larger area of congested breast tissue. The skin over the area may look pink but ductal narrowing is not associated with systemic symptoms such as a fever. Feeding may relieve the 'blocked' area by reducing the distension in the milk sacs. But repeated, more frequent feeding to clear it, may exacerbate the problem by increasing milk production. Aggressive massage is not effective and may increase inflammation and cause tissue trauma.

Inflammatory mastitis

Inflammatory mastitis occurs when the ductal narrowing persists or worsens. The breast becomes red, hot, swollen, and painful with systemic flu-like symptoms. A fever does not necessarily indicate an infection is present as it can be a response to the inflammation.

Bacterial mastitis

This type of mastitis requires treatment with antibiotics. Bacterial mastitis is not contagious and there is no need to cease breastfeeding. Nipple damage is associated with mastitis. However, new evidence on the composition of the human milk microbiome has shown that mastitis is not caused by the entry of bacteria via a wound on the nipple.

Bacterial mastitis presents as a congestion, redness, and heat in one segment of the breast and may spread to other areas of the breast. If flu like symptoms (fever, aches, and chills) persist for more than 24 hours then evaluation by a doctor should be sought. *The same applies if breast symptoms do not resolve with the general management strategies described below.*

Abscess

Abscess occurs because of unresolved bacterial mastitis and requires surgical drainage. They present as a well-defined area of the breast which becomes progressively red and hot. You can often feel the collection of infected fluid under the skin. Initial flu like symptoms may ease as the body walls off the infectious process. Diagnosis is usually made by clinical examination and ultrasound.

Galactocele and infected galactocele

A galactocele occurs when ductal narrowing obstructs the flow of milk leading to milk collecting in a cyst like cavity. They can vary in size from 1-10cm, and the size can fluctuate throughout the day, getting smaller after feeding. Galactoceles are not usually painful and there is no redness or heat unless they become infected. They can be identified on ultrasound.

Recurrent mastitis

Risk factors include hyperlactation (oversupply), dysbiosis, inadequate treatment of previous episodes of mastitis and failure to address underlying issues.



Subacute mastitis

This condition occurs when thick biofilms form inside the milk ducts causing inflammation and narrowing. Disruption of the mammary microbiome with a loss of bacterial diversity and anti-inflammatory factors trigger this. It occurs in patients who have previously been treated for bacterial mastitis. But caesarean section, exclusive pumping and nipple shield use are also risk factors as these can disrupt the microbiome. Symptoms include burning breast pain, nipple blebs, 'blockages,' congestion and unresolved over supply. Patients do not have flu like symptoms.

General management of this spectrum of mastitis

Most cases of mastitis will resolve with conservative measures and will not require medical treatment. It is important to understand that lactating breasts can feel lumpy and even painful at times, especially if there has been a longer gap between feeds. Normal hormonal changes associated with the initial period after birth can trigger hot flushes and sweating. These symptoms may be mistaken for a fever.

1. **Feed baby on demand and do not aim to fully empty the breast.** Increased milk removal by offering the breast more or pumping after feeds to empty the breast will increase milk production which will worsen the swelling and inflammation. *Hand expressing small amounts can provide comfort until supply settles. If using a breast pump only the amount of milk the baby will take at each feed should be removed.* In cases where the breast is so swollen and inflamed that milk cannot be removed at all by the baby or a pump the baby should be fed from the other breast. Feeding or pumping should not recommence on the affected breast until the swelling and inflammation have subsided. This will lead to a drop in supply, but this will recover once normal feeding resumes.
2. **Minimise use of breast pumps.** Pumping increases milk production but does not remove milk as effectively as breastfeeding. Furthermore, pumping does not provide the opportunity for bacterial exchange between mum and baby predisposing to dysbiosis. Ill-fitting pump flanges, pumps with the suction set too high and using pumps for excessive periods of time can cause trauma to the breast. If the baby cannot go to the breast, then the breasts should only be expressed as often as the baby wants to feed and the volume of milk removed should not exceed what the baby will take at each feed.
3. **Avoid the use of nipple shields.** These can interfere with milk transfer and impair the exchange of bacteria between mum and baby.
4. **Wear a supportive and well-fitting bra.**
5. **Avoid deep massage of the breast.** Deep massage increases inflammation and swelling. Avoid using electric toothbrushes and other vibrating massage tools. [Manual lymphatic drainage](#) with light sweeping of the skin is most helpful. Gentle [breast compression](#) during feeding and pumping can be used.



6. **Decrease inflammation and pain.** Ibuprofen can be taken to reduce inflammation and is safe when breastfeeding. Paracetamol can be used for pain. Ice packs can be applied hourly. *Sunflower or soya lecithin 5-10mg my mouth daily will reduce inflammation and emulsify milk.*
7. **Treat nipple blebs** A bleb occurs when ductal inflammatory cells lodge at the surface of the nipple. Treat by taking *sunflower or soya lecithin 5-10mg daily and applying hydrocortisone 1% cream to reduce inflammation.* Do not use a needle to open the bleb. Jack Newman has also suggested the use of Medihoney gel may be helpful.
8. **Treat over supply (hyperlactation).** Over supply predisposes to congestion and inflammation in the breast which in terms leads to disruption of the mammary microbiome creating a vicious cycle. Block feeding, herbs and medications can be used to lower supply. An IBCLC can provide guidance on this. Block feeding is explained [here](#).
9. **Ultrasound.** Therapeutic ultrasound uses thermal energy to reduce inflammation and swelling. It can be provided by a doctor or physiotherapist daily until symptoms settle. The recommended setting to treat breasts is 1MHz, intensity 2.0 W per cm squared for 5 minutes. Referral for further investigations should be made if symptoms persist.
10. **Antibiotics.** These should only be used in cases of bacterial mastitis as they can trigger worsening mastitis by disrupting the microbiome and overuse will lead to antibiotic resistance. There is no evidence for using antibiotics to prevent mastitis.
11. **Probiotics.** Probiotics may be helpful in the treatment and prevention of mastitis, but the probiotic used needs to be specific strains. This product Lactanza Hereditum contains the recommended strains.
12. **Looking after mental health.** Mastitis issues can be a huge source of anxiety and trigger low mood and negative feelings and nursing aversion. Support can be accessed via your healthcare provider (GP, midwife, health visitor), via the [National Breastfeeding Helpline](#), Breastfeeding Counsellors and [IBCLCs](#).

Specific recommendations for:

Engorgement in the first few days after birth include:

- Allowing baby free access to the breast and feeding as often as baby wants to.
- Using [hand expressing](#) to relieve the fullness and provide milk for a baby who is have difficulty or is unable to latch.
- [Reverse pressure softening](#), hand expressing and use of a pump to remove a small volume of milk to soften the areola and allow baby to latch.
- [Lymphatic drainage](#)
- Ice packs to the breast. Can be applied hourly.



Ductal narrowing and inflammatory mastitis

- Follow general management advice above.

Infective mastitis

- See a doctor for antibiotics.
- Continue to breastfeed as normal.
- Drink plenty of fluids.
- If symptoms do not start to settle after 48 hours of antibiotics speak to your doctor about doing milk cultures.

Abscess

- You will be referred to a breast clinic so diagnosis can be confirmed by ultrasound.
- Antibiotics will be given for 10-14 days usually.
- The abscess will be drained by needle, and this may be necessary on more than one occasion. The fluid removed will be cultured to ensure you are on the right antibiotic.
- A drain may be placed into the breast to provide continuous drainage of the abscess.
- You should continue to feed from the affected breast.

Galactocele and infected galactocele

- You will be referred to a breast clinic so diagnosis can be confirmed by ultrasound.
- It is recommended that these are drained using a drain rather than needle aspiration as with needle aspiration they often reoccur.
- If the galactocele is infected a course of antibiotics will be required.

Recurrent mastitis

- Breast milk cultures will identify the causative bacteria so appropriate antibiotics can be given.
- Review your breastfeeding and expressing techniques with an IBCLC or someone equally skilled.
- Taking the probiotic Lactanza Hereditum may be helpful.
- If you have had multiple recurrences of mastitis or notice any changes in the breast such as puckering or 'orange peel' skin, then you need to be referred to a breast surgeon for further investigation.



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Subacute mastitis

- In this situation milk cultures may be negative.
- Antibiotics may be given.
- Probiotics (Lactanza Hereditum) are an option.
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