

Sore Nipples *in*
Breastfeeding
Mothers:
Causes and
Treatments

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Introduction

Breastfeeding is now widely recognized as the ideal source of infant nutrition and nurturing.¹⁻² The American Academy of Pediatrics recommends breastfeeding exclusively for the first 6 months of an infant's life, with continuation as the infant's primary source of nutrition for the first year.¹ However, although an increasing number of women are initiating breastfeeding, many stop well before 6 months.³

The most commonly reported problem with breastfeeding is sore nipples, and the resultant discomfort or pain is frequently associated with discontinuance.⁴ A degree of transient soreness postpartum is accepted as normal by some lactation specialists, but soreness should be mild and completely gone by the end of the second week.⁵ If nipple pain is more intense than mild tenderness and/or if pain occurs between feedings or lasts longer than a week or two, the cause of the pain needs to be addressed.

Treating sore nipples in breastfeeding mothers quickly and effectively is important in improving the duration of breastfeeding beyond a few weeks. This article provides background information on the causes and treatments of sore nipples to assist pharmacists in more effectively serving clients who breastfeed.

Breast Anatomy and Mechanics of Suckling

Milk is produced in clusters of glandular breast tissue (alveoli). Sucking at the breast stimulates nerve endings in the nipple and areola (the darker pigmented tissue surrounding the nipple shaft), resulting in the release of the hormone oxytocin via the hypothalamus and pituitary. Oxytocin stimulates contraction of the alveoli and expulsion of milk into milk ducts that lead to the pores in the nipples. This expulsion is called the milk-ejection reflex, or let-down, essential for effective milk transfer.⁵

During suckling, a baby draws the nipple and some of the areola into his or her mouth, forming a teat that places the nipple at the junction of the hard and soft palates (the latch-on). The contact of the nipple in this palate location stimulates the baby's sucking reflex. A cycle of jaw compression, coordinated with a kind of peristaltic action by the tongue, squeezes milk from the ducts and moves it to the back of the mouth for a swallow, which then creates suction within the baby's oral cavity. This suction maintains formation of the teat and continues the cycle. When the baby is suckling effectively, his or her jaw and alveolar ridge compress milk ducts well behind the nipple, which is far back in the mouth and protected from both compression and abrasion.⁶⁻⁷ The terms *milk sinuses* and *lactiferous sinuses* are no longer used for the ductwork beneath the areola tissue, as ultrasound imaging has shown they do not exist.⁵

A pain-free latch-on goes hand-in-hand with effective suckling. Moreover, a mother's milk supply is built and maintained by regular emptying of the breast. Sore nipples can be an indication that the baby is not suckling effectively, which



potentially compromises the mother's milk supply. Sore nipples and concerns about milk supply are the two most frequently cited reasons women stop breastfeeding.⁴

Causes of Sore Nipples

Causes of sore nipples include, but are not limited to, mechanical trauma, bacterial infections and mastitis, candidiasis or yeast infection, dermatitis and other skin conditions and vasospasm.

Mechanical Trauma

The most common source of mechanical trauma to the nipple is improper latch-on, where, typically, the nipple is not drawn back far enough into the baby's mouth and is subject to compression or abrasion. This is often due to problems in positioning the baby at the breast or latch-on technique, especially in the early weeks.^{5,7} More rarely, palatal anomalies or tongue-tie in the baby, anatomical mismatch between mother and baby (eg, large-diameter nipple or extremely long nipple) or inverted nipples are factors.⁵

Some babies develop ineffective suckling patterns that cause their mothers to have sore nipples. A baby's ability to suckle "...is not fully developed at birth or can be inhibited by drugs given to the mother during childbirth," and the first few feedings postpartum can "... imprint a suckling pattern that tends to be repeated in subsequent feedings."⁶ The use of bottles and pacifiers in the early weeks is discouraged for breastfeeding babies because of the possibility of reinforcing ineffective suckling patterns.^{5,8} When a baby feeds from a bottle, the mouth is not open as wide, the jaw moves minimally in comparison with breastfeeding, and the tongue pushes upward and forward against the nipple of the bottle to control milk flow.⁶ These mechanics can prevent the mother's nipple from being drawn back far enough into the mouth.⁷

Other sources of mechanical trauma are:

Resources Favored by Lactation Specialists for Information About Medications and Breastfeeding

- [No author listed.] American Academy of Pediatrics Committee on Drugs. The transfer of drugs and other chemicals into human milk. *Pediatrics* 2001;108:776-789. Available at: www.aap.org/policy/0063.html.
- Briggs GG, Freeman RK, Yaffe SJ. *Drugs in Pregnancy and Lactation*. 6th ed. Philadelphia, PA:Lippincott Williams and Wilkins; 2002.
- Hale TW. *Medications and Mothers' Milk*. 10th ed. Amarillo, TX:Pharmasoft Publishing; 2002.
- Hale T, Berens P. *Clinical Therapy in Breastfeeding Patients*. Amarillo, TX:Pharmasoft Publishing; 2002.

- Breast engorgement, which can stretch nipple tissue, thereby increasing its fragility and susceptibility to trauma⁹ and making latch-on more difficult;⁵
- Use of a breast pump with a suction level too high or maintained too long;⁵ and
- Pump flanges too narrow for the nipple.⁵

Infection

Most cracked nipples and breast infections occur during the first 2 weeks after childbirth, when pathogens from the hospital may be present in wounds.⁷ When nipple pain cannot be resolved in a few days by good positioning and latch-on techniques, infection should be considered.^{5,7}

Bacterial Infections of the Nipple, and Mastitis. Several studies have found an

association between moderate-to-severe nipple pain and *Staphylococcus aureus* infection.¹⁰⁻¹² Untreated bacterial infections of the nipple can spread, causing mastitis (inflammation of the mammary gland, or breast) or systemic illness.^{7,10,13} The term *mastitis* covers both infective and noninfective inflammation of breast tissue, which can cause similar symptoms.¹⁴ Mastitis due to an ascending lactiferous duct infection can cause deep breast pain, which can be mistaken for candidiasis.¹⁵ *Staphylococcus aureus* is the most common pathogen associated with breast infections.⁷ *Streptococcus* and *Escherichia coli* are also sometimes found.¹⁶

Candidiasis or Yeast Infection. *Candida albicans* is the most common infection-causing species of *Candida* in humans.¹⁷ Yeast infections of the nipple or breast are difficult to diagnose, and swabs from the nipple often culture negative.^{7,12,17} Lactation consultants usually diagnose candidiasis of the nipple and breast only after taking a careful history, examining the mother and infant and excluding other possible sources of pain.¹⁷

The most common symptom of nipple candidiasis is persistent and often severe nipple pain that doesn't respond to careful adjustment of positioning and latch-on technique. The pain, often described as "burning" or "knife-like," can radiate through the breast and persists between feedings.^{5,17,18} Predisposing factors include nipple damage, recent use of antibiotics and *Candida* vaginitis.^{7,18} Infants with oral candidiasis (thrush) can infect their mothers' nipples.¹⁷

Lactation consultant Barbara Wilson-Clay, IBCLC, believes that nipple candidiasis is overdiagnosed, sometimes solely on a report of burning, deep breast pain. She recommends that someone see the nipples, take a good history, and if normal treatment strategies don't improve things, reconsider the diagnosis.⁹

Dermatitis and Other Skin Conditions. Eczema, dermatitis, impetigo, psoriasis and poison ivy can occur on the nipple, as well as other skin surfaces. Postpartum women can be especially sensitive to contact irritants,⁷ which can include nipple creams and ointments, the plastic

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on breast shells (hard plastic rings with a hole for the nipple, worn inside the bra) or flanges, cologne, deodorant, hair spray or powder used near the nipple/areola, and laundry detergent.⁵ Dermatitis can be mistaken for a fungal infection⁷ and is typically suspected when nipple pain persists despite good latch-on and positioning, a nipple crack or fissure is healing slowly, there is no response to treatment for candidiasis after several days, or any other unusual skin condition exists on the nipple.⁵

Vasospasm. Vasospasm (spasm of the blood vessels) in the nipple can cause pain. Risk factors include poor latch-on, damage to the nipple and/or a history of Raynaud's phenomenon.^{5,7,17,18}

Treatments

There are a variety of approaches for treating sore nipples, but no "single" method has been shown to be most effective.⁷

Correction of Positioning or Latch-on Difficulties

As stated, the most common reason for sore nipples is positioning or latch-on difficulties. Current understanding of latch-on emphasizes the importance of placing the baby's lower jaw as far behind the nipple as possible, causing the baby to take more of the lower areola into his or her mouth than the upper (the asymmetric latch).⁷ Lactation specialists can help with this problem. The most important consideration is for the mother to seek help early, before extensive nipple damage occurs.

Many volunteer organizations help breastfeeding women. The largest is La Leche League (Schaumburg, Illinois), an international volunteer organization that provides help on a one-to-one basis at monthly support meetings and through the provision of educational materials. La Leche League leaders are experienced breastfeeding mothers trained in all aspects of breastfeeding. Much of their work is done over the telephone. A local La Leche League leader can be found through its website at www.lalecheleague.org.

Selected Resources for Information About Breastfeeding

- La Leche League International. Available at: www.lalecheleague.org
- Australian Breastfeeding Association. Available at: <http://www.breastfeeding.asn.au>
- Breastfeeding Online. Available at: www.breastfeedingonline.com

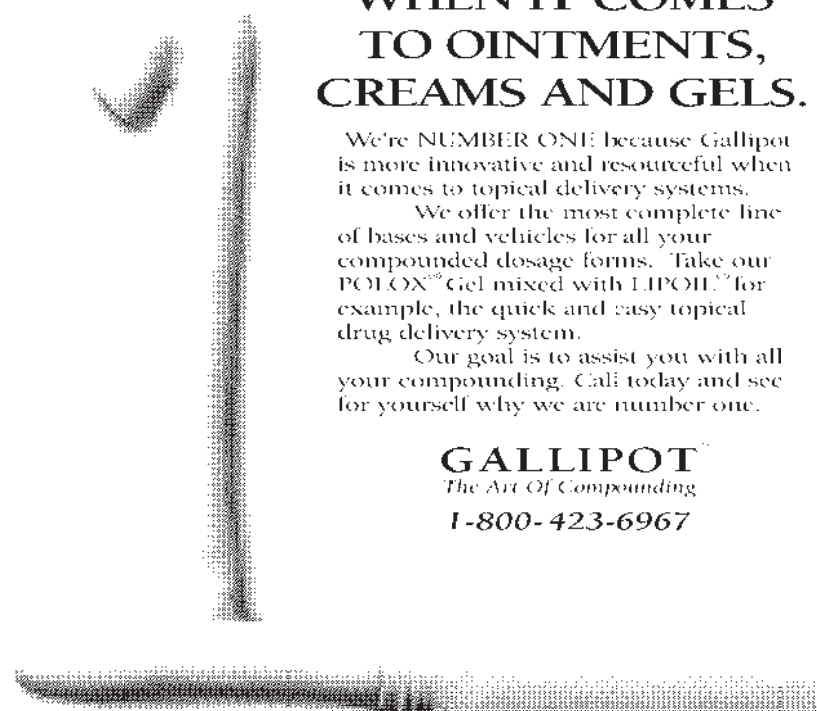
Mothers who have more severe cases of sore nipples, or who are concerned about the baby's intake, usually need an inperson consultation with a lactation consultant. An International Board-certified Lactation Consultant (IBCLC) has extensive training in breastfeeding; and hospitals commonly have lactation consultants (LCs) on staff for mothers having difficulties while in the hospital, but availability varies after discharge. LCs are sometimes available through pediatric offices, public health clinics or private practices. An IBCLC can be found through a website at www.ilca.org.

Comfort Measures

Alleviating the pain of sore nipples while the underlying cause is being corrected can save the breastfeeding relationship. Simple breastfeeding management strategies can minimize infant sucking at the breast when milk flow is low.^{7,18}

- Stimulating the let-down reflex before the baby latches on;
- Nursing on the less sore side first;
- Enhancing milk intake by manual expression while the baby is nursing (breast compression).

Lanolin. Many mothers find that the application of USP-modified lanolin on



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their nipples is soothing. The reduction of free lanolin alcohols and detergent residues has been shown to reduce allergic response in lanolin-sensitive patients.¹⁹ Two hypoallergenic brands marketed to breastfeeding mothers are Lansinoh and PureLan 100. These can be applied sparingly between feedings and do not need to be removed before feeding.

Breast Shells. Breast shells can be worn between feedings to keep the pressure of a bra or clothing off sore nipples. The hole should be large enough for good air circulation around the nipple; and, to prevent the risk of mastitis, the shells and bra should fit so that there is not too much pressure on the areola.^{5,14} A combination of breast shells and lanolin has been shown to reduce pain.²⁰

Analgesic. An analgesic compatible with breastfeeding is an option.²¹ However, if a mother feels she needs an analgesic to continue breastfeeding, she should be strongly encouraged to contact an LC for help in correcting the cause of the problem.

Hydrogel Pads. Hydrogel pads have been shown to reduce the pain of sore nipples.^{20,22} However, concerns of increased risk of nipple infections with one hydrogel product (Elasto-gel) warrant caution in its use (see below).²⁰ Mike Stein, RPh, Nu-Cara Pharmacy, Coralville, Iowa, has found Soothies (Puronyx, Inc., Vista, California) to be popular among his breastfeeding

clients; however, no feedback about possible problems with infection has been documented. An unpublished study⁵ reported no increase in infections in mothers using Soothies.

Temporary Cessation. Mothers who find breastfeeding so painful that they delay or avoid feeding can temporarily stop breastfeeding on the sore breast while the nipple heals. However, they should pump to maintain the milk supply on that breast and to prevent engorgement.¹⁸

Promoting Healing of the Nipple

Wound Care. Although cleaning intact nipple skin is unnecessary, a daily, gentle cleansing of nipple wounds with warm, soapy water (avoiding antibacterial soaps) followed by a warm-water rinse can help prevent infection by pathogens found on the skin and in the baby's mouth. Wounded nipples can additionally be rinsed in warm water after each feeding.⁷

Topical mupirocin has been suggested to prevent infection of damaged nipple skin.⁷ Besides being highly active against *Staphylococci* and some *Streptococci*, it has antifungal activity.^{7,23,24} Mupirocin is rapidly metabolized when ingested orally, which reduces concerns about side effects in the nursing baby.²⁵

Moist Wound Healing. Not long ago, drying techniques, such as using a hair dryer or a sun lamp, were routinely suggested for sore nipples. More recently, however, moist wound-healing theory has changed strategies to aim for maintenance of the internal moisture of the skin (not surface wetness).⁵ A popular over-the-counter moisture barrier is USP-modified lanolin, such as Lansinoh or PureLan 100.

Lactation specialists have recently been exploring the use of hydrogel pads, used for years on other parts of the body to speed wound healing.²⁶ Use of hydrogel pads on nipples is different from use on other body parts because of the necessity of frequent removal of the pads and exposure of the nipple to the flora of the baby's mouth.^{5,7} Controlled studies have shown that these products, while providing pain relief, appear to have only a limited capability to enhance healing of sore nipples compared with standard therapies.^{5,20,22} In one study, Elasto-gel (a hydrogel product) was associated with increased risk of nipple infections.²⁰ La Leche League literature currently suggests that mothers investigate, among other things, whether the hydrogel product can be rinsed to avoid build-up of organisms on the pad and whether the product inhibits the growth of bacteria and fungi.⁵

All-Purpose Nipple Ointments. Jack Newman, MD, a Canadian pediatrician who is a widely recognized expert in breastfeeding, developed an ointment for sore nipples that combines an antibiotic (mupirocin) with an anti-inflammatory agent (beta-methasone) and antifungals (nystatin and clotrimazole, or miconazole).^{18,27} Table 1 contains formulas for the original ointment,¹⁸ as well as a more recent version.²⁷ The ointment is applied sparingly after each feeding and does not have to be wiped off before the next nursing. Newman suggests using it until the nipples are pain free, then gradually reducing application over a week. As with most powerful steroid ointments, use should be limited. In one case, use of a nipple

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Table 1. Formulas for All-Purpose Nipple Ointment.^{18,30}**Rx**

For 44 g

		Final Concentration
Mupirocin (Bactroban) 2% Ointment	22 g	1%
Betamethasone dipropionate (micronized)	0.022 g	0.05%
Miconazole USP	0.88 g	2%
Yellow color 2% solution	1 drop	
Aquaphor Ointment qs	44 g	

Method of Preparation

1. Levigate miconazole and betamethasone dipropionate powders with a small quantity of the Aquaphor. Geometrically, add the remaining Aquaphor, followed by the yellow color, and mix well.
2. Add the Bactroban Ointment to this by geometric dilution and mix well.
3. Package and label.

Source: Michael F. Stein, RPh, NuCara Pharmacy, Coralville, Iowa.

Rx

For 100 g

		Final Concentration
Mupirocin (Bactroban) 2% Ointment	25 g	0.5%
Betamethasone valerate ointment 0.1%	25 g	0.025%
Nystatin 100,000 U/g ointment	25 g	25,000 U/g
Clotrimazole 1% cream	25 g	0.25%

Method of Preparation

1. Mix the Bactroban Ointment with the clotrimazole cream.
2. Mix the Betamethasone valerate ointment with the nystatin ointment.
3. Mix the two mixtures together.
4. Package and label.

Source: Ron Becker, RPh, The Medicine Shoppe, Walla Walla, Washington.

Rx

For 60 g

		Final Concentration
Mupirocin (Bactroban) 2% Ointment	15 g	0.5%
Betamethasone valerate ointment 0.1%	15 g	0.025%
Nystatin 100,000 U/g ointment	15 g	25,000 U/g
Clotrimazole USP	1.5 g	2.5%
Ethoxy diglycol reagent	0.5 mL	
Aquaphor	13 g	

Method of Preparation

1. Mix clotrimazole with ethoxy diglycol and make a smooth paste.
2. Incorporate this mixture into the Aquaphor.
3. Individually, incorporate the other ointments and mix well.
4. Package and label.

Source: Larry Frieders, RPh, The Compounder, Aurora, Illinois.

g = gram

USP = United States Pharmacopeia

U/g = units per gram

qs = sufficient quantity

mL = milliliter

cream for 2 months resulted in signs of corticosteroid excess in an infant.²⁸

Vanita Dahia, BPharm, MPS, Dartnell's Pharmacy in Melbourne, Australia, has found Friar's Balsam (compounded tincture of benzoin) 3 mL in 30 g anhydrous wool-fat ointment to be a useful, time-tested formula with antiseptic, drying and wound-healing properties. Excess ointment is wiped off with a warm, moist face towel prior to feeding. Dahia has not seen allergic reactions to this preparation.

Treatments for Candidiasis. Most lactation specialists suggest simultaneous treatment of mother and baby if nipple or breast candidiasis is diagnosed, even if the baby shows no symptoms.^{5,16,17,18,29} Common treatments include topical antifungals or gentian violet for the mother's nipples and baby's mouth (see Table 2).

Although Newman recommends using all-purpose nipple ointment in combination with gentian violet,^{18,30} Larry Frieders, RPh, of The Compounder, Aurora, Illinois, finds that because gentian violet can be quite messy, clients would rather avoid it. Stein sees the all-purpose ointment as an attractive option for physicians reluctant to recommend the entire regime. Jill Alexander, MD, an Iowa City, Iowa, pediatrician and nursing mother, found that the use of the ointment alone

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was very effective when she developed the classic “knife-like, stabbing pain” at 6 weeks postpartum, but would have considered gentian violet if the ointment hadn’t worked.

Systemic antifungal treatment is commonly prescribed for persistent or deep breast pain.^{5,7,17,18,29,30} The single dose of fluconazole typically prescribed for vaginal yeast is not effective for nipple or breast candidiasis.^{5,7,17}

In addition to pharmacological treatments, lactation specialists usually suggest special attention to personal hygiene by all family members, disinfection of objects coming in contact with the baby’s mouth or mother’s nipple and changing breast pads after each feeding, if the mother is using them. Care plans for persistent candidiasis commonly include dietary modifications, such as taking *Lactobacillus acidophilus*, and decreasing the consumption of sugar and

artificial sweeteners, fermented products, refined starches and dairy products.^{5,7,31} *Candida* infections elsewhere on the mother or baby should be treated simultaneously.¹⁷

Treatment for Mastitis. Antibiotics effective against *Staphylococcus aureus* are usually used to treat mastitis.¹⁶ A breastfeeding mother should complete the full course of antibiotic to prevent recurrence. Since there is an increased risk of candidiasis following antibiotic use, Wilson-Clay and Hoover suggest gently rinsing the nipples with clean water following each breastfeeding.⁷

The Role of the Compounding Pharmacist

Contact with breastfeeding mothers seeking relief for sore nipples is an opportunity for the compounding pharmacist to confirm that a mother is getting help from a lactation specialist to

address the cause. Stein’s pharmacy markets all-purpose ointment along with other products to obstetrician/gynecologist practices, pediatricians and family practitioners and finds that his requests for this prescription are driven primarily by physicians. Alexander notes that knowledge and training about breastfeeding vary among physicians and that not everyone will spend time with a mother to look at latch-on problems and other factors. On the other hand, Frieders and Ron Becker, RPh, of The Medicine Shoppe, Walla Walla, Washington, have found that their requests are driven by healthcare providers with more extensive training in lactation, eg, lactation consultants, nurse midwives and nurse practitioners; Frieders’ pharmacy markets to midwives and nurse practitioners specializing in the care of mothers and new babies.

Breastfeeding clients may have other needs that the compounding pharmacist can meet. For instance, at this time in the United States, domperidone, used to help increase milk supply, is obtainable only through compounding pharmacies. Stein’s pharmacy carries Baby’s Bliss GripeWater, a homeopathic remedy for colic that is recommended by one local nurse practitioner. Pharmacists can also provide reliable information about the passage of medications into human milk. A list of resources favored by lactation specialists has been provided.

Summary

Sore nipples are not a normal part of breastfeeding. A mother with sore nipples will benefit most if she seeks help early to address the primary cause and if she receives treatment for complicating infections or conditions. A basic knowledge of causes and treatments of sore nipples will help the compounding pharmacist best serve breastfeeding clients.

Acknowledgment

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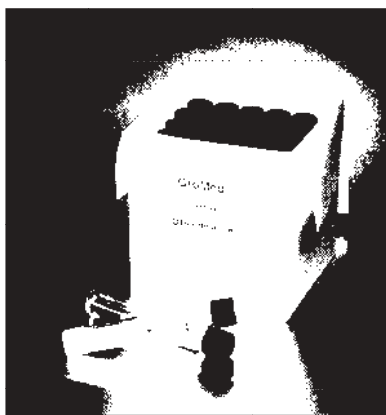
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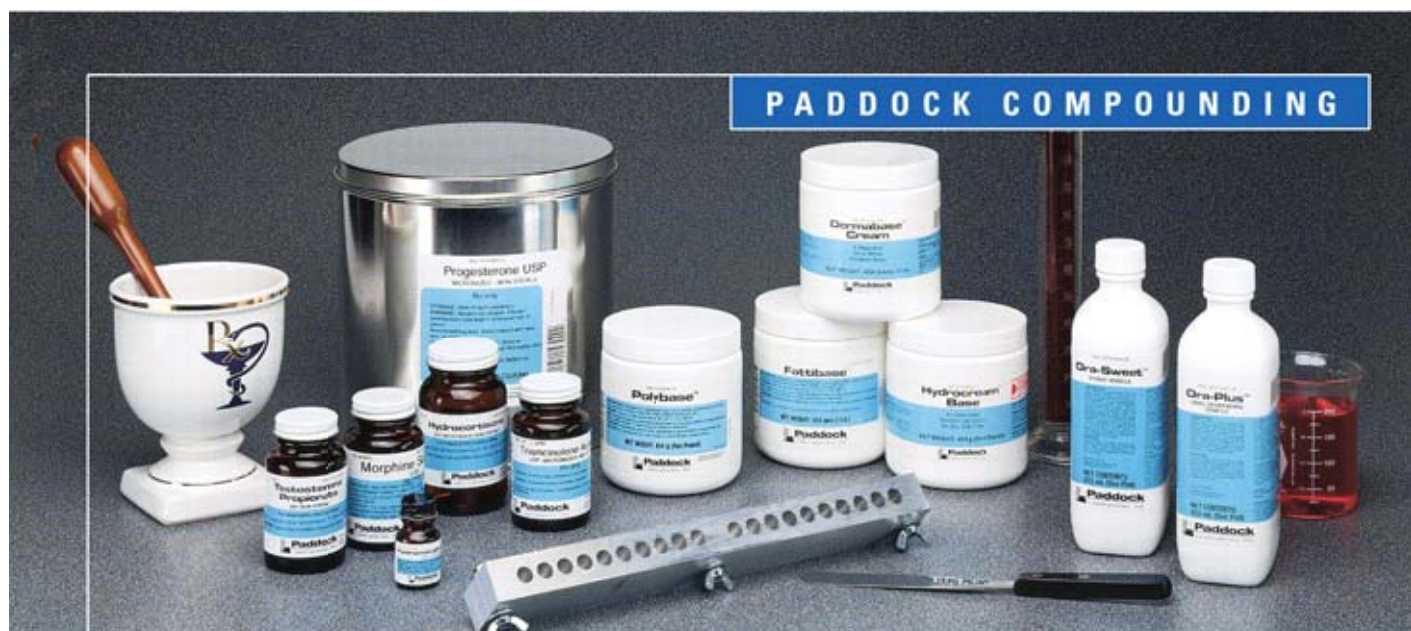
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Table 2. Selected Treatment Options for Nipple and Breast Candidiasis.¹⁷

For Mother		
<i>Type of Treatment</i>	<i>Agent</i>	<i>Comments</i>
Topical	Cutaneous antifungal, applied to clean and dry nipples/areolae: ^{5,29}	Treatment is usually recommended for at least 2 weeks, even with improvement after 1 or 2 days. ²⁹
	Nystatin cream or ointment (100,000 U/g; 2 to 3 times daily) ¹⁷	Nystatin is considered safe because of its poor oral bioavailability, but it is not as effective as other treatments; nystatin resistance has increased among <i>Candida</i> strains. ¹⁶
	Nystatin with triamcinolone, cream or ointment (4 times daily) ¹⁷	Clotrimazole may have a higher risk of contact dermatitis. ²⁵
	Clotrimazole cream, lotion or solution (1%; 2 times daily) ¹⁷	Ketoconazole is considered by AAP to be usually compatible with breastfeeding. ²¹
	Ketoconazole cream (2%; 1 to 2 times daily) ¹⁷	<i>Note: Due to poor oral bioavailability of nystatin, clotrimazole and miconazole, there is no need to wipe off before the next nursing.</i> ¹⁶
	Miconazole cream (2%; 2 times daily) ¹⁷	
	All-purpose nipple ointment (see Table 1). Apply sparingly after each feeding; do not wash or wipe off. ^{18,30}	Jack Newman recommends using all-purpose nipple ointment in combination with gentian violet, then slowly decreasing use of the all-purpose nipple ointment over a period of 1 week. ^{18,30}
	Gentian violet, 0.5% or 1% aqueous solution; swab nipple/areola once or twice daily for 3 to 7 days. Stop after 4 days if pain is gone. ^{5,17,18,30}	Gentian violet is messy and will stain clothing; it can be used with other antifungals. ^{18,30}
Systemic	Oral fluconazole, 200 to 400 mg loading dose, then 100 to 200 mg 2 times daily for at least 2 weeks. Continue 1 week after pain is gone. ^{16,17}	Oral fluconazole is typically used when pain persists or when deep breast pain is present. ^{5,7,17,18,29} The single-dose treatment for vaginal yeast infections is not clinically effective for nipple yeast. Baby will need to be treated separately; amount of fluconazole received through the milk is estimated at 5% or less of the recommended pediatric dose. ^{16,25} Oral fluconazole is considered by the AAP to be usually compatible with breastfeeding. ²¹
	Oral ketoconazole, 200-mg tablet daily with food. ¹⁷	Oral ketoconazole is less expensive than fluconazole; it is considered by the AAP to be usually compatible with breastfeeding. ²¹
For Baby		
Topical	Nystatin oral suspension, 100,000 to 500,000 U 4 to 8 times daily. Typically, 1 mL of suspension is given in each cheek, 4 times daily after feedings, or 1 mL for the entire mouth 8 times daily. ¹⁷ The suspension should be shaken well and then poured into a paper cup. A cotton swab or small gauze square wrapped around a finger should be used to apply the medication to all the inside surfaces of the baby's mouth. Any leftover medicine can be fed from the cup to the baby. ^{7,17}	Nystatin is considered very safe because of its low oral bioavailability, but it is poorly effective, and nystatin resistance has increased among <i>Candida</i> strains. ¹⁶
	Miconazole oral gel (not available in the United States), 25 mg 4 times daily for infants under 1 year; 50 mg 4 times daily for infants over 1 year. ¹⁷	Oral bioavailability of miconazole is low. ¹⁶ Miconazole is more effective than nystatin suspension. ³² It can be applied to the mother's nipples after each feeding. ¹⁷

Type of Treatment	Agent	Comments
	Clotrimazole oral gel, which is made by crushing a 10-mg clotrimazole lozenge and mixing it with 5 mL of glycerin or with 3 mL of methylcellulose. Apply the gel to the baby's mouth and the mother's nipple every 3 hours, for a total of five applications. ¹⁷	
	Gentian violet, diluted to 0.5% or 1% aqueous solution, can be used to swab inside the baby's mouth on the cheeks, gums and tongue once or twice daily for 3 to 7 days. ^{17,18}	Higher concentrations of gentian violet than shown can cause ulcers in the baby's mouth; it can be used with other antifungals. Jack Newman recommends gentian violet in conjunction with the all-purpose nipple ointment as the first line of treatment for the baby and the mother. ^{18,30}
Systemic	Fluconazole pediatric oral suspension, (available in Canada) 6 mg/kg/day loading dose, then 3 mg/kg/day for 5 to 6 days. ¹⁷	Fluconazole oral suspension is cleared for use by the FDA in infants 6 months and older. Safe use of fluconazole oral suspension in neonates has been reported. ²⁵
U/g = units per gram mg = milligram mL = milliliter FDA = US Food and Drug Administration	AAP = American Academy of Pediatrics U = units kg = kilogram	



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