



# A Cosmetic Approach to Cheilitis

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Cheilitis is a common dermatologic condition in women, men, and children and can be related to a variety of causes including lip licking, irritant contact dermatitis, allergic contact dermatitis, actinic damage, and eczema. Cheilitis is a condition that combines both medical and cosmetic treatments because lip balms and lipsticks may be an important part of disease prevention or, in some cases, the cause of cheilitis. For this reason, I have elected to devote this column to the assessment of cheilitis.

## What Is Cheilitis?

Cheilitis is basically an inflammation of the lips. This inflammation may be caused by defective cellular repair from actinic damage, which leads to leukoplakia and chronic lip peeling. This is perhaps the most common cause of cheilitis in men. Alternatively, cheilitis may be caused by an allergic reaction to cosmetics. The most common culprit is castor oil, which is found in most lipsticks. Irritation from medications or lip licking also may contribute to the development of cheilitis. Retinoids applied elsewhere on the face may migrate to the lips thereby causing irritation, or maceration from repeated wetting and drying of the lips may cause irritation. Lastly, some individuals may have defective oil production from the tiny oil glands located on the periphery of the lip where the transitional mucosa meets the keratinized skin. These sebaceous glands, also known as *Fordyce spots*, look like yellow dots within the red vermilion. These individuals could be viewed as having a type of lip eczema.

## What Are the Typical Treatments for Cheilitis?

The typical treatment for cheilitis is a low-potency corticosteroid ointment. This ointment can be applied to the

lips twice daily for 2 weeks and then discontinued to prevent the appearance of skin atrophy or possibly the onset of perioral dermatitis. The treatment may be slightly different for actinic cheilitis where cryosurgery or topical imiquimod must be added to physically or chemically remove the UV-damaged cells.

## What Is a Possible Cosmetic Treatment for Cheilitis?

Women can use lipsticks as effective adjunctive treatments for cheilitis. Opaque lipsticks can decrease the amount of UV radiation reaching the lip mucosa and prevent the recurrence of actinic cheilitis. Some lipsticks even incorporate sunscreen actives providing both physical and chemical protection.

Basically, lipsticks are mixtures of waxes, oils, and pigments in varying concentrations that yield the characteristics of the final product. For example, a lipstick designed to remain on the lips for a prolonged period is composed of high-wax, low-oil, and high-pigment concentrations. On the other hand, a product designed for a smooth creamy feel on the lips is composed of low-wax and high-oil concentrations.<sup>1</sup> Smooth creamy lipsticks are the best choice for patients with actinic cheilitis.

White beeswax, as well as candelilla, carnauba, ozokerite, lanolin, ceresin, and other synthetic waxes, are commonly incorporated into lipstick formulations. Lipsticks usually contain a combination of these waxes. The waxes are carefully selected and blended to achieve the desired melting point. Oils, such as castor oil, white mineral oil, lanolin oil, hydrogenated vegetable oil, or oleyl alcohol, are then selected to form a film suitable for lip application. The oils are emollients in the lipstick, making the lips feel smooth and soft. Patients interpret this as improved lip cheilitis, albeit temporary. However, the oils will decrease transepidermal water loss until the lip barrier can be reestablished.

Several types of coloring agents are used in lipsticks.<sup>2</sup> Indelible coloring, or lip staining, is achieved through the use of bromo acids, consisting of fluoresceins, halogenated fluoresceins, and related water-insoluble dyes. Other pigments consist of insoluble dyestuffs and lake colors.

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*The author reports no actual or potential conflict of interest in relation to this article.*

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Metallic lakes are insoluble dyes precipitated or laked on a metallic substrate such as aluminum. For example, food, drugs, and cosmetics (FD&C) Blue No. 1 is an azo dye precipitated on aluminum, which transforms the insoluble dye to a pigment. Other lake colors are based on calcium or barium salts. Indelible colors can cause lip dryness, as well as allergic contact dermatitis.

## How Can Lipsticks Cause Allergic Cheilitis?

Several ingredients unique to lipsticks can cause allergic contact dermatitis in the sensitized patient.<sup>3</sup> Castor oil, found in almost all lipsticks because of its excellent ability to dissolve bromo acid dyes, is a cause of allergic contact cheilitis.<sup>4-6</sup> Other common lipstick sensitizers are bromo acid dyes, one of which is eosin (drugs and cosmetics [D&C] Red No. 21).<sup>7</sup> Eosin is used in the indelible red lipsticks designed to stain the lips and extend the amount of time color stays on the lips. Many long-wearing lip products contain this allergen. In addition to causing allergic contact dermatitis, bromo acid dyes also may cause irritant contact dermatitis and worsen lip dryness. Other ingredients in lipsticks that may cause allergic contact dermatitis include: ricinoleic acid,<sup>8</sup> benzoic acid,<sup>9</sup> lithol rubine a-Bromocinnamaldehyde (Pigment Red 57-1),<sup>10</sup> microcrystalline wax,<sup>11</sup> oxybenzone,<sup>12</sup> propyl gallate,<sup>13</sup> and C18 aliphatic compounds.<sup>14</sup>

## How Should Lip Cosmetics Be Patch Tested?

If allergic contact dermatitis is suspected, patch testing is easy to perform. The patient should bring the lipstick product in question to a dermatologist. The lip cosmetic can be stroked across the patient's back and covered with a patch. Interpretation would be the same as allergens administered via the standard T.R.U.E. Test®.

It is important to remember that the ingredient disclosure for lipsticks usually is not printed on the tube. The ingredients may appear on the lipstick packaging, a piece of paper taped to the lipstick tube, or a separate paper available at the lipstick display in the store. Physician should remind patients to obtain the ingredient disclosure to aid in determining the offending substance so that future allergic reactions may be avoided.

## How Are Lip Balms Best Used in Treating Cheilitis?

Lip balms are an important part of cheilitis treatment. They can be viewed as moisturizers for the lips. The role of lip balms in reducing transepidermal water loss and creating an environment optimal for healing cannot be ignored. Lip balms should be applied over any topical

corticosteroids that are used in treatment. The topical corticosteroid should be applied sparingly with a generous application of lip balm.

If the cheilitis is attributed to lip xerosis, continued use of nighttime lip balm may be recommended to prevent recurrence; because the patient is at rest, lip balm is most effective when applied at this time.

## Is It Possible to Become Dependent on Lip Balm?

One of the most interesting controversies regarding the use of lip balm for the treatment of cheilitis is the perception that patients can become addicted to lip balm. Many dermatologists have observed patients who apply lip balm every 30 minutes as a type of obsessive-compulsive behavior. I investigated this issue for a major lip balm manufacturer. Results from this research indicated that patients cannot become addicted to lip balm but can become accustomed to the waxy feel the lip balm leaves behind on their lips. Thus, the need to apply lip balm frequently is not related to lip xerosis but rather to sensory perceptions (Z.D.D., unpublished data, 2001).

## Conclusion

Cheilitis is an important dermatologic condition that bridges the medical and cosmetic worlds. This column has examined the role of cosmetics in causing and preventing cheilitis.

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