

The Role of Ophthalmic Ointments in Night-Time Exposure and RCE:

A Roundtable Discussion

Paul Karpecki, OD, FAAO – Director of Cornea and External Disease, Kentucky Eye Institute; Cory Lappin, OD, MS, FAAO – The Dry Eye Center of Ohio, Founder; Ada Noh, OD – Noh Eyes, Founder

Over-the-counter lubricating agents are the go-to for most optometrists when initially addressing dry eye and other ocular surface disorders.

Most commonly, this means the use of artificial tears. However, another category of lubricating agents, ophthalmic ointments, should not be forgotten, especially as they are uniquely suited to address several challenging ocular surface conditions – including night-time exposure and recurrent corneal erosion. The following is a roundtable discussion between three dry eye and ocular surface disease experts - Drs. Paul Karpecki, Cory Lappin, and Ada Noh – in which they discuss the benefits of ointments, which specific formulations they prefer, how and when they use them, and address questions and concerns regarding their implementation.

Night-Time Exposure

Night-time exposure (NTE) refers to exposure of the cornea and ocular surface to the external environment caused by incomplete eyelid closure known as inadequate lid seal (ILS) during sleep and is characterized symptomatically as dryness that is present upon waking. This condition is incredibly common as Dr. Noh notes that up to 85% of her patients have some form of a nocturnal eyelid seal issue, oftentimes without any obvious clinical signs. Most dry eye does not begin in the morning, so morning symptoms indicate NTE/ILS.

How is NTE diagnosed? For Dr. Noh, it all starts with patient history, “I take history myself because I find out so much information,” further explaining that the number one way she diagnoses NTE is from patient history and symptoms. In addition to these data points, Dr. Karpecki states that while he “likes confirmatory tests,” such as the Korb-Blackie light test, morning symptoms alone will validate the diagnosis.

How is NTE treated? According to the group, ointments should be top of mind when managing NTE, “The time to start thinking about ointments is overnight,” states Dr. Karpecki. Dr. Lappin agrees, stating “The number one condition that comes to mind in terms of

ointment use is night-time exposure.” The group likes to start with ointment and then add or alternate eyes with treatments like sleep strips.

Recurrent Corneal Erosion (RCE)

Another relatively common condition with a nocturnal component is recurrent corneal erosion (RCE).

In RCE, attachment of the corneal epithelium to the basement membrane is compromised, typically due to traumatic injury, a structural abnormality like EBMD, or NTE. This poor adhesion can be further weakened by changes to the ocular surface environment during sleep, resulting in repeated episodes of the fragile epithelium being ripped away by shearing forces of the lid, usually upon waking, accompanied by sharp, often intense pain.

Management of RCE can be complex and varied, however Drs. Karpecki, Lappin, and Noh all agree that treatment of RCE has two phases – acute, when there is an active abrasion or erosion, and long-term, when the goal is to prevent further episodes. This follows the natural progression of corneal wound healing as the cornea re-epithelializes relatively quickly, typically within 24 hours, but it can take up to six weeks for the hemidesmosomes to fully anchor the epithelium to the basement membrane. In the acute phase, amniotic membranes, bandage contact lenses, hyperosmotic ointments, and anti-inflammatory agents can all be beneficial, the group explains. However, once the initial acute phase of RCE has been treated, long-term management aimed at preventing future episodes becomes crucial as Dr. Noh states “We know once a patient has had a recurrent corneal erosion, they are more susceptible to have it happen again, so we have to provide something to protect the cornea through the night-time.” This long-term management of RCE “is where ointment becomes key” according to Dr. Karpecki. Because episodes of RCE typically occur upon waking, Dr. Lappin recommends the use of night-time ointment as “a good way to reduce friction and the shearing forces of the lids.”



Paul Karpecki,
OD, FAAO



Cory Lappin, OD,
MS, FAAO



Ada Noh, OD

OPTASE HYLO Night

When it comes to managing nocturnal conditions like NTE and RCE, Dr. Karpecki states “Ointments are an underutilized option that can be far superior in conditions like this compared to other things we could use,” explaining that “they have a longer contact time” on the ocular surface compared to traditional drops which helps protect the cornea throughout the night.

In cases where ointment is beneficial, is there a specific ointment that is recommended? Dr. Karpecki explains he may use a hyperosmotic ointment to reduce edema during the acute phase of RCE, but then prefers to use an ointment like OPTASE HYLO Night (SCOPE Health Inc) for maintenance as it is better suited to “reduce friction and desiccation,” which he will even recommend up to three times per day if needed.

What sets OPTASE HYLO Night apart from other ointments? “Not all ointments are the same,” Dr. Lappin explains and points to OPTASE HYLO Night’s unique formulation as a major reason for its efficacy. Traditional ointments are primarily composed of petroleum and little else, whereas OPTASE HYLO Night contains white petrolatum which acts as a lubricant, light liquid paraffin and lanolin, which increase water retention and reduce evaporation, and vitamin A in the form of retinol palmitate, which is a lipophilic oil that readily mixes with the other ingredients giving the ointment its “soft” feeling and easy flow. This formulation cuts down on the blurring effect and “tackiness” commonly associated with ointments. Additionally, topical vitamin A has been shown to promote corneal and conjunctival wound healing and improve signs and symptoms of dry eye. Dr. Noh also specifically recommends OPTASE HYLO Night to her patients, highlighting that its preservative-free formulation “is huge for me” as preservative exposure can be detrimental to the ocular surface.

How do you approach challenges or concerns associated with ointment use?

The use of ointment poses a few potential challenges, as Dr. Lappin notes “many patients are concerned their vision will be blurred for hours or they will have a buildup of ‘gunk’ along with their lids and lashes being

stuck together.” However, all three doctors have found that these issues are not as common with OPTASE HYLO Night. In Dr. Noh’s experience “patients like OPTASE HYLO Night more, they find it is easier to use and don’t mind these effects compared to other ointments.” Because of OPTASE HYLO Night’s specific formulation, once the ointment is on the eye, the body’s heat will cause it to melt “giving it a more gel-like consistency compared to the traditional Vaseline-like feel experienced with conventional ointments,” adds Dr. Lappin. Additionally, one of the benefits of using OPTASE HYLO Night before bed is that the blurring effect wears off overnight, as Dr. Karpecki explains, “By the time patients wake up most of, if not all, the blur will have dissipated.”

There is also some concern with ointment use due to a previous study that found RCE symptoms actually worsened after patients used bland ointment for two months following their initial injury. However, Drs. Karpecki, Lappin, and Noh all agree this does not mean that the use of ointments should be avoided entirely, but rather that specific ointments should be used in the appropriate context. For instance, this worsening was observed when ointment was used in the acute phase of RCE, whereas the roundtable recommends using ointments after this initial period as a form of longer-term maintenance. Ointment composition also plays a role as older, waxier petroleum-based ointments commonly referred to as “bland ointments” have been shown to interfere with wound healing, whereas more contemporary formulations have not shown any negative impacts on healing. Another potential concern is Vitamin A use, however, not all forms of Vitamin A are the same. Although retinoids such as isotretinoin and tretinoin can be damaging to the meibomian glands, topical retinol palmitate has not only been shown to be safe, but beneficial to the ocular surface.



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