



Lacri+® and Lacri-protect®, a confident look at veterinary ophthalmology

A range of **preservative-free eye care solutions**



Care for the eyes using preservative-free formulas



Enhance ocular comfort and quality of life for dogs with dry eyes



Provides individualised lubrication of the ocular surface during sedation or anaesthesia





The MP Labo ophthalmological range

Between 1 and 4% of dogs are affected by dry eyes, and up to 20% of individuals in certain breeds¹. It results from a defect in tear production or excessive evaporation.

Its management includes the repeated use of an eye lubricant.



Want to find out more about dry eyes in dogs?



Lacri+®

Doing more for the ocular comfort

Key ingredient: 0.4% cross-linked sodium hyaluronate

Use: to lubricate, moisturise and protect the ocular surface

Directions for use: 1 to 2 drops 2 times a day

Presentation: 10 ml multi-dispense bottle

PRESERVATIVE-FREE

Sterility ensured by tip-seal mechanism and multilayer filtration membrane. Long shelf life: 3 months after opening



Lacri-protect®

Lubricate the ocular surface

Key ingredient: 0.2% carbomer

Use: to lubricate the eye surface

Directions for use: 1 to 2 drops 2 times a day

Presentation: box of 10 single-use pipettes, display box of 110 single-use pipettes

PRESERVATIVE-FREE

Single-use pipettes of carbomer

Resealable single-use pipettes: can be used for 12 hours after opening



Eye care by MP Labo



Respecting the delicate balance of the eye with preservative-free formulas

In the field of human health, the use of preservative-free products is often preferred to reduce the risk of irritation. Inspired by advances in human ophthalmology, we have designed a range of preservative-free veterinary eye protectors: our **LACRI** range provides optimum protection for the eyes, and offers the added benefit of limiting potential reactions linked to preservatives.



A reference from human ophthalmology suggests that *"Frequent use of preservatives tends to weaken the ocular surface, making it susceptible to chronic inflammatory phenomena that can be serious in the long term."*

Gentle, preservative-free formulas for good tolerance



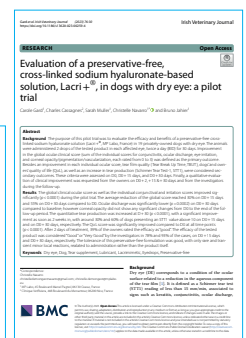
Building confidence with scientific evidence

The ingredients have been selected to meet a specific need, based on scientifically recognised activity.



The products are assessed by recognised experts:

- in a published study, **Lacri+®** was shown to improve ocular comfort and quality of life in dogs with dry eyes³⁻⁴⁻⁵
- in a published study, the lubricating and moisturising effect of **Lacri-protect®** was demonstrated in a case series of dogs^{6,7}



Innovations based on science



Making pet care easier

Eye care products in formats that are practical for owners and smart for preserving products:

- an innovative, preservative-free bottle that can be used for up to 3 months after opening
- single-use pipettes for optimum lubrication of the cornea during sedation or anaesthesia, limiting the risk of cross-contamination



Products designed to encourage the use of eye care products

Lacri+[®], doing more for the ocular comfort

PATENTED MULTIDISPENSE BOTTLE



Multilayer membrane to filter air

Tip-seal mechanism to prevent contamination

(image Aptar Pharma)

Storage 3 months after opening

10 ml



WITH CROSS-LINKED SODIUM HYALURONATE

Ocular lubrication increased by cross-linking sodium hyaluronate with urea^{1,8}

Improved **persistence** on the ocular surface thanks to cross-linking⁹

Regenerative capacity of corneal epithelial cells⁸



Cross-linking technology

Modifies the structure of sodium hyaluronate by creating cross-links, enabling:

- greater stability and improved persistence on the ocular surface⁹
- an improvement in ocular surface health parameters compared to non-cross-linked sodium hyaluronate¹⁰

When to recommend Lacri+[®]?

- To **lubricate, moisturise** and **protect** the ocular surface
- For **medium and long-term use**
- To **benefit** dogs prone to **dry eyes**
- To **maintain corneal health** in brachycephalic animals and animals at risk of developing dry eyes
- To **promote cell regeneration** as a complement to medical management



Why recommend Lacri+[®]?



Efficiency

- Lubricating power for dry eyes
- Good persistence on the cornea
- A unique preservative-free formulation to limit eye irritation



Long-term use

- Shelf life 3 months after opening thanks to the patented bottle
- 1 month's use (2 drops in both eyes twice a day)



Innovation

- New cross-linking technology with urea
- Patented device guarantees sterility after opening



Lacri+® improves the comfort of dogs with dry eyes⁵



Protocol

- 19 dogs with one or more signs of dry eyes and a Schirmer's test (STT) between 5 and 10 mm/min
- 2 drops of **Lacri+®** in each eye, twice a day for 30 days
- Assessments at D0, D15 and D30:
 - Global ocular score (GOS): score from 0 (no signs) to 3 (severe signs) for each of the 4 ocular signs (conjunctival redness, eye discharge, discomfort, corneal opacity). The GOS is the sum of the individual scores.
 - Tears: quantitative (STT) and qualitative (tear film break-up time - BUT) monitoring



Case of a Cocker Spaniel who had previously shown reactions to preservative eye drops⁴



Photo credit: C. Cassagnes - MP Labo

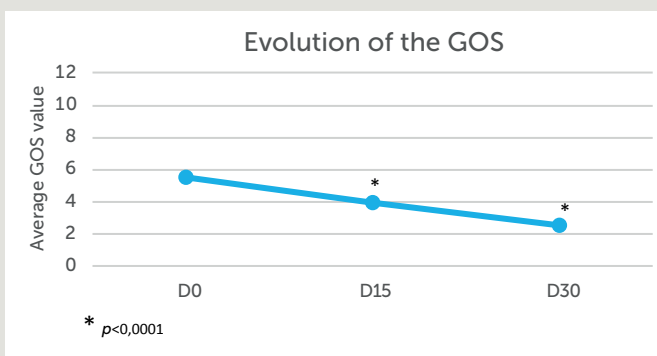
D0: GOS of 4/12 (conjunctival redness 1/3, eye discharge 2/3, discomfort 1/3, corneal opacity 0/3)

D30: GOS of 1/12 (conjunctival redness 1/3, eye discharge 0/3, discomfort 0/3, corneal opacity 0/3)

Results

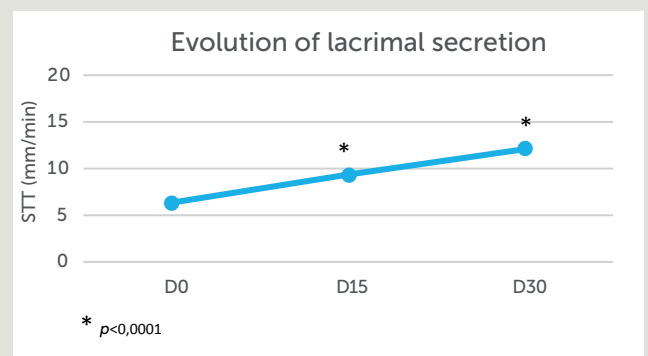
- **GOS improvement:**

Significant reduction in "conjunctival redness", "discharge" and "discomfort" signs from day 15



- **Increased lacrimal secretion:**

60% of dogs have a STT greater than 10 mm/min at D30



- **Effective in 93% of cases**

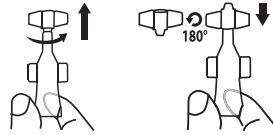


Easy to very easy to use for **83.3% of owners**

Lacri+® helps increase the secretion of the tear film and improves the comfort and quality of life of dogs with dry eyes⁵.

Lacri-protect[®], lubricate the ocular surface

SINGLE USE FORMAT



Resealable single-use pipette
reusable for 12 hours
after opening

~ 10 drops per pipette

In clinics:
display of 110 single-use pipettes
At home: box of 10 single-use
pipettes



WITH CARBOMER

Synthetic polyacrylic acid
polymer with moisturising and
film-forming properties

High binding power to water:
**ability to retain more than 1000
times their volume in water¹¹**

Interaction with mucins, allowing
it to **adhere to the ocular surface
without flowing¹²**

Gently shake the pipette before opening
to facilitate pouring



Advantages of single-use eye lubricants during sedation and anaesthesia?

- ▶ **Hygiene:** each animal has an individual pipette, minimising the risk of cross-contamination in the operating room.
- ▶ **Transparency and trust** with the owner: the mention of single-use pipettes on the operative report and invoices underlines your commitment to quality eye care.
- ▶ **Profitability** for the veterinary facility: the use of single-use pipettes means that each patient can be invoiced separately, offering a cost-effective approach.

When to recommend Lacri-protect[®]?

- ▶ **To lubricate the ocular surface:** in the event of sedation or anaesthesia, irritation (wind, pollen, dust, etc.) or exposure of the cornea
- ▶ **For occasional or short-term use**



Why recommend Lacri-protect[®]?



Protection

- Lubrication of the ocular surface during sedation and anaesthesia
- Preservative-free formulation to limit eye irritation



Practical

- Resealable carbomer single-use pipettes, reusable within 12 hours of opening



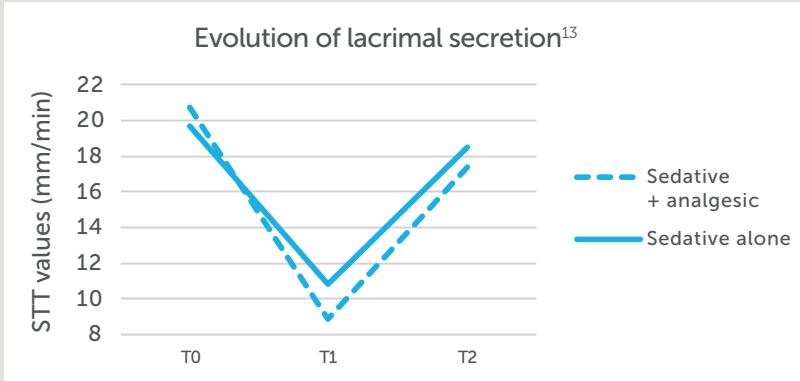
Value

- The single-use format allows for individual protection in the clinic and is valuable both on the professional and economical aspects



Why lubricate the cornea during sedation or anaesthesia?

➤ During sedation and anaesthesia, **tear production decreases and the risk of corneal lesions increases:**



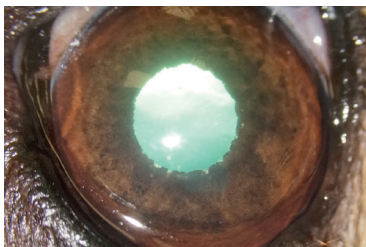
Schirmer test values (STT) in 10 dogs before sedation (T0), 15 minutes after sedation (T1) and 15 minutes after antidote (T2).

- More than a quarter of dogs given an **opioid combined with a sedative** had **STT values below 15 mm/min**¹⁴.
- During **gas anaesthesia** without premedication, STT values fall significantly **from 10 minutes** after the start of anaesthesia **until at least 22 hours** after removal of the mask¹⁵. Wearing the mask and the air flow increase eye dryness.

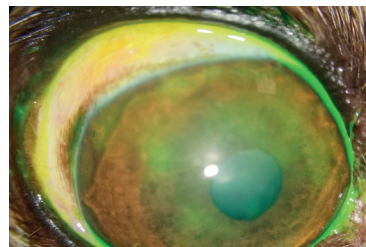
➤ The ocular surface therefore requires lubrication **during** and **after** sedation and general anaesthesia.

Example: epithelial erosion during anaesthesia in a 9.5 year-old Jack Russell Terrier

Photo credit: T. Azoulay, V. Fouque - MP Labo



Before anaesthesia



After anaesthesia

Before anaesthesia: the cornea is smooth and well hydrated.

After anaesthesia, without eye lubrication: fluorescein reveals corneal epithelial erosion.

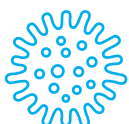


To know more about the lubricative effect of Lacri-protect®

Individualised in-clinic lubrication for sedation and anaesthesia

Hygiene

One single pipette per animal to limit the risk of cross-contamination.



If the operation or examinations last, repeat the application.

Quality of care

Repeat the application in the recovery room, especially if the animal is placed under a heat lamp.



Communicate your care to owners

Value

Reapply on returning home and continue for a further 1-2 days.



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