

# Epimax-Related Ocular Surface Toxicity: A Case Series From Royal Bolton Hospital

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## BACKGROUND & RATIONALE

### Why Every Ophthalmologist Should Know About EROST

Epimax is a widely prescribed emollient for periorbital eczema and dermatitis in the UK.

Despite its prevalence, Epimax-Related Ocular Surface Toxicity (EROST) remains under appreciated by both primary & secondary care.

First described by Mulholland et al., Glasgow, UK in 2023<sup>1</sup>, and subsequently corroborated by Cowen et al. in Somerset<sup>2</sup>. We contribute 26 consecutive cases from Royal Bolton Hospital.

Lockington et al. 2023 — 37 cases    This series — 26 cases

Sullivan et al. — cytotoxicity info    Cowen et al. 2025 — 8 cases

## PATHOGENIC MECHANISM

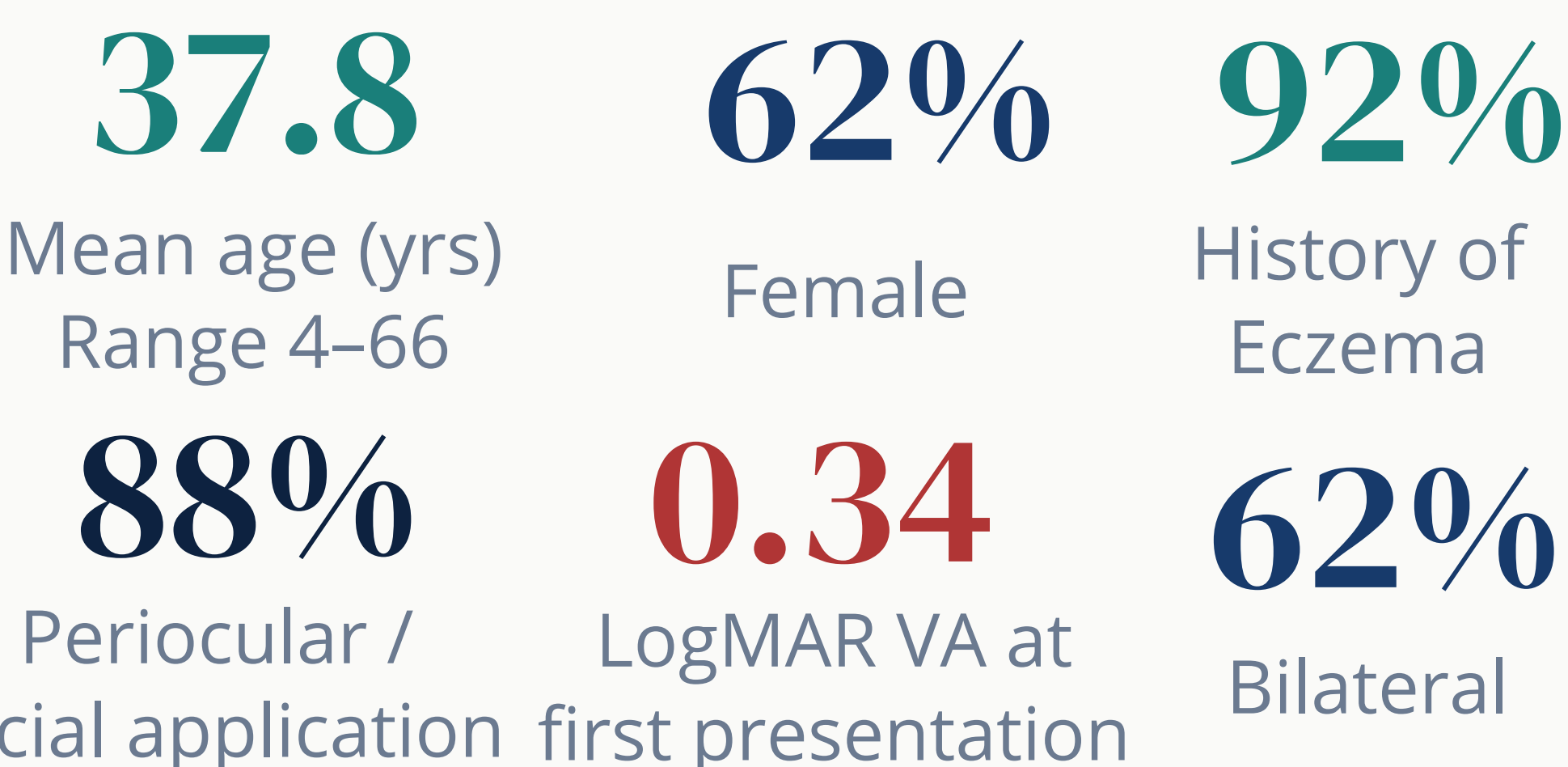
### Implicated Agents

Epimax comprises liquid paraffin, yellow soft paraffin, and cetomacrogol emulsifying wax - the latter containing the two candidate toxic agents:

|                                                         |                                                                                                   |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <b>Cetostearyl Alcohol</b><br>Emulsifying wax component | Generalised ocular surface irritation; disrupts corneal epithelial barrier integrity              |
| <b>Castor Oil (Ricinoleate)</b><br>Surfactant component | Direct cytotoxic effects on corneal epithelial cells; associated with epithelial defect formation |

## DEMOGRAPHICS & EXPOSURE

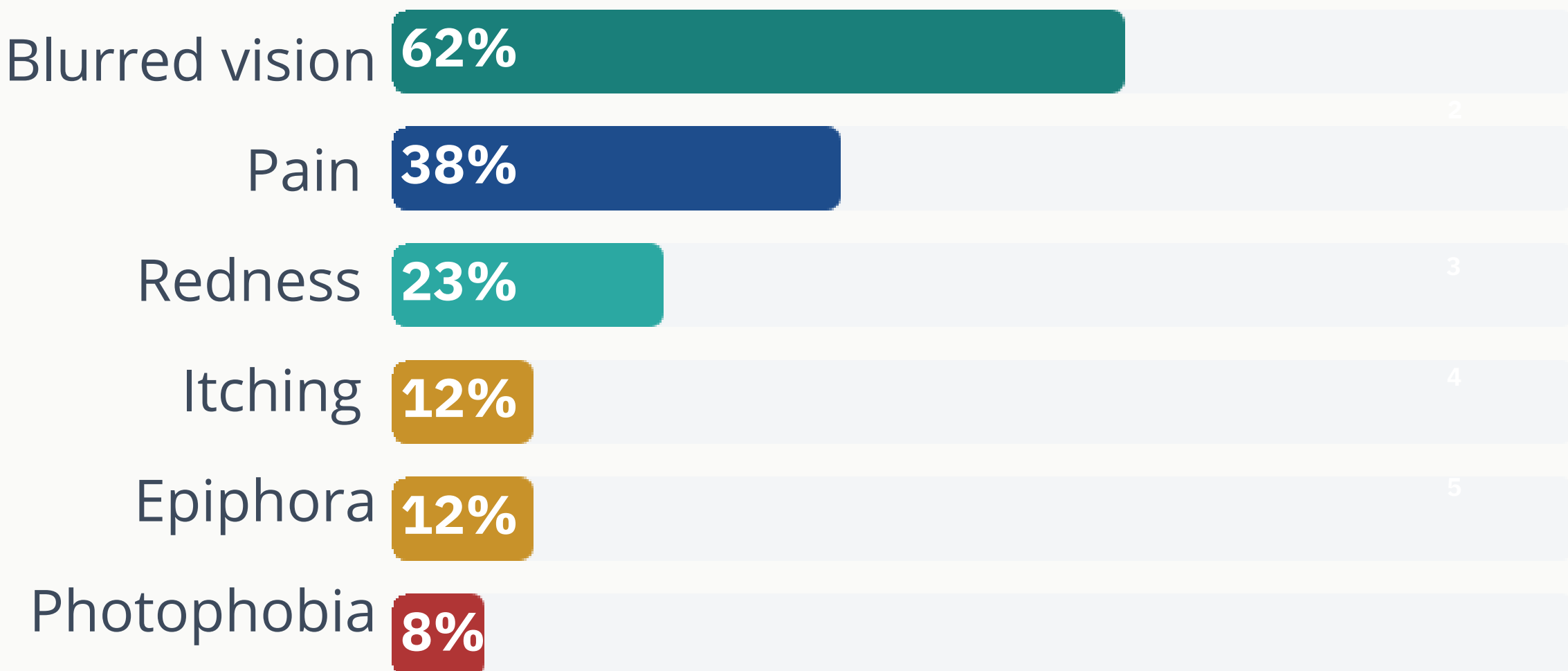
### Our Cohort: 26 Consecutive Patients



## TIME TO SYMPTOM ONSET



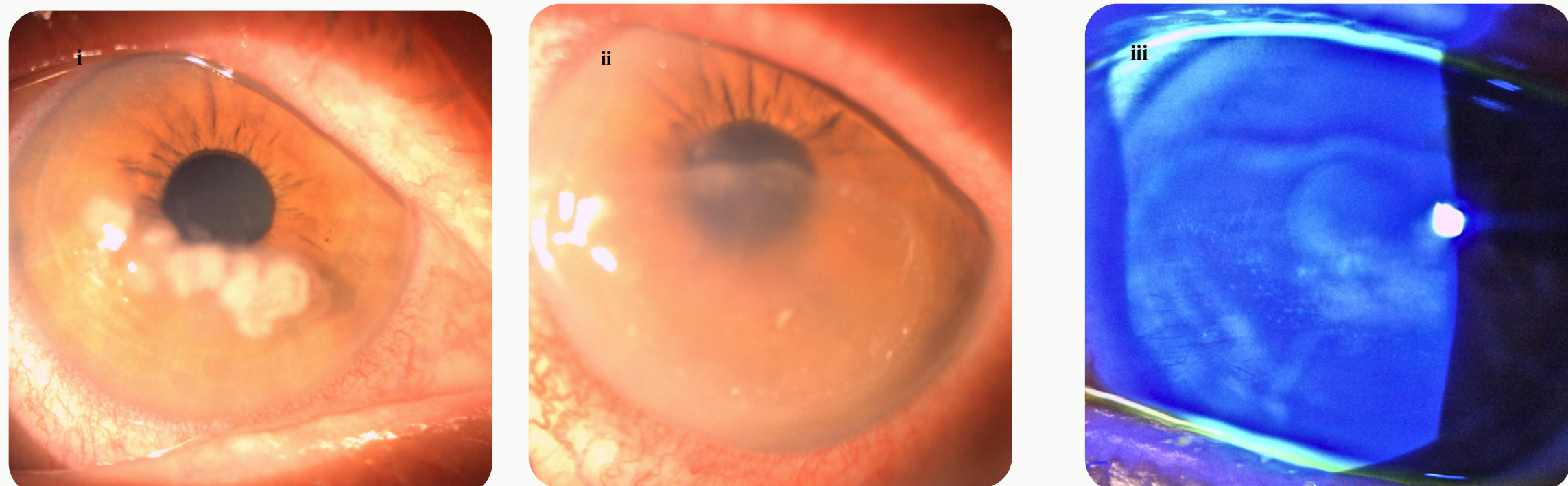
## PRESENTING SYMPTOMS



## CLINICAL SIGNS

Epithelial defects 42.3%    SPEEs 53.8%

## SECONDARY INFECTION

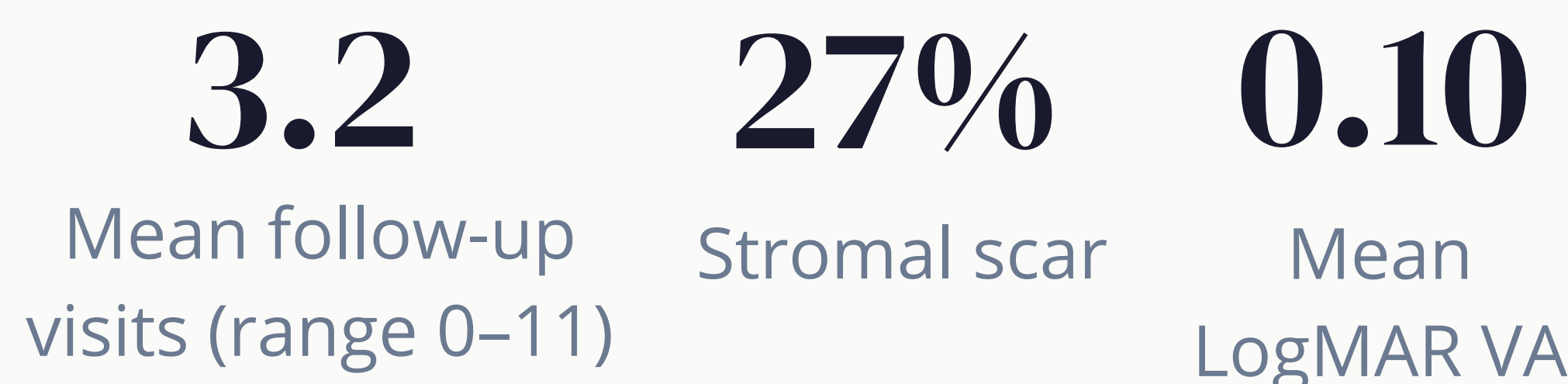


i & ii) 67 yr old female, satellite lesions (i) and epithelial defect (ii) in EROST with secondary fungal keratitis  
iii) Punctate staining in area of healed epithelium

## MANAGEMENT & INTERVENTION

- Cessation of Epimax — 100%**  
Universal first step; all patients discontinued Epimax upon diagnosis
- Preservative-free lubricants — 92%**  
Frequency ranging from q1 to 6 times/day
- Topical antibiotics — 54%**  
Levofloxacin or chloramphenicol for epithelial defect prophylaxis
- Topical steroids — 46%**  
Preservative-free formulations
- Advanced interventions — 8%+**  
Amniotic membrane graft, bandage contact lens, surgical debridement, antifungals

## OUTCOMES AT FINAL FOLLOW-UP



## KEY CONCLUSIONS

### Always ask about Epimax

In any patient with atopic disease and new bilateral ocular surface symptoms, emollient history is an part of the history.

### Onset can be rapid

Toxicity occurred after a single day of use in multiple patients. Brief exposure does not confer safety.

### Indirect exposure causes EROST

Facial application is not required - hand-to-eye transfer from body application is sufficient to cause disease.

### EROST is entirely preventable

Better education by primary care & pharmacy at the point of prescribing needed eliminates this iatrogenic condition.

**Field Safety Notice issued: Epimax should **not** be applied to or around the eyes. BNF and MHRA now explicitly contraindicate facial use.**

## DIFFERENTIAL DIAGNOSIS

**Dry eye disease    Recurrent corneal erosion**  
**Allergic conjunctivitis    CL related keratitis**  
**Viral keratoconjunctivitis**

A single targeted history question - **"Are you using Epimax?"** - to patients with red eye & eczema can prevent misdiagnosis and mismanagement.

## References

1. Mulholland C, Macdonald E, Lockington D. Eye. 2023;37(18):3869–70 · 2. Cowen S et al. Eye. 2025;39(2):386 · 3. Sullivan AG, Murthy R, Roos JCP. Eye. 2024;38(4):817 · 4. MHRA Field Safety Notice 20/1/23 · 5. BNF: Emollient creams and ointments (paraffin-containing). NICE London · 6. Sullivan DA et al. Ocul Surf. 2023;29:77–130

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