

## Prescription of Lubricating Eye Drops in the Emergency Eye Department: A Quality Improvement Project

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**Abstract :** Dry eye disease (DED) is a common condition seen in the emergency eye department (EED) at Manchester Royal Eye Hospital (MREH). However, there is variability in the prescription of lubricating eye drops among different healthcare providers. The aim of this study was to develop an up-to-date, standardized algorithm for the prescription of lubricating eye drops in the EED at MREH based on international and national guidelines. The study also aimed to assess the impact of implementing the guideline on the rate of inappropriate lubricant prescriptions. Primarily, the impact was to be assessed in the form of the appropriateness of prescriptions for patients' DED. The impact was secondary to be assessed through analysis of the cost to the hospital. Data from 845 patients who attended the EED over a 3-month period were analyzed, and 157 patients met the inclusion and exclusion criteria. After conducting a review of the literature and collaborating with the corneal team, an algorithm for the prescription of lubricants in the EED was developed. Three plan-do-study-act (PDSA) cycles were conducted, with interventions such as emails, posters, in-person reminders, and education for incoming trainees. The appropriateness of prescriptions was evaluated against the guidelines. Data were collected from patient records and analyzed using statistical methods. The appropriateness of prescriptions was assessed by comparing them to the guidelines and by clinical correlation with a specialized registrar. The study found a substantial improvement in the number of appropriate prescriptions, with an increase from 55% to 93% over the three PDSA cycles. There was additionally a 51% reduction in expenditure on lubricant prescriptions, resulting in cost savings for the hospital (approximate saving of £50/week). Theoretical importance: Appropriate prescription of lubricating eye drops improves disease management for patients and reduces costs for the hospital. The development and implementation of a standardized guideline facilitate the achievement of these goals. Conclusion: This study highlights the inconsistent management of DED in the EED and the potential lack of training in this area for healthcare providers. The implementation of a standardized, easy-to-follow guideline for lubricating eye drops can help to improve disease management while also resulting in cost savings for the hospital.

**Keywords :** lubrication, dry eye disease, guideline, prescription

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