

## IN-USE EXPIRY OF EYE DROPS IN A SECONDARY CARE SETTING

### Review and practice recommendations by South Central Antimicrobial Pharmacists Network

#### Introduction

The existing national guidance regarding the assigned in-use expiry of eye drops in secondary care settings dates back to 2001<sup>1</sup>.

RPSGB Guidance for use of ophthalmic preparations in hospital and care homes *Pharm J* 1 Sept 2001<sup>(1)</sup> states

*In the wards (inpatients) and nursing homes* — All patients should receive a fresh supply of eye-drops on admission to hospital or nursing home. A separate bottle for each eye should only be supplied if both eyes require treatment and the patient has an open eye infection and/or medical opinion thus dictates. It is recommended that the period of use of each bottle should not exceed 14 days. This may include both inpatient and post-discharge use. (*Br J Ophthalmol* 1998;82:473-5). A fresh supply of eye-drops should be provided after any eye surgery. If a fresh container of eye-drops is supplied on discharge from hospital this may be apportioned a “user life” of 28 days.

This is not congruent with the principles of modern medicines management in which it is now routine practice to encourage the use of patients’ own medicines from home and is very wasteful to discard and re-dispense eye drops with a shortened expiry. This has wide-ranging implications including:

- Unnecessary expenditure on eye drop products
- Waste of potentially scarce products leading to sourcing/supply issues
- Unnecessary processing, handling and dispensing (staff time)
- Unnecessary therapeutic switches (e.g. to formulary alternatives)
- Possible missed doses while awaiting re-issue of condemned eye drop products

#### Aim

The South Central Antimicrobial Pharmacists Network decided to

- a) review the available evidence on assigned in-use expiry of eye drop preparations,
- b) survey how this is applied in practice,
- c) produce a regional guidance document of recommendations on the in-use expiry of preserved eye drop preparations that will support the standardisation of practice and reduce the waste of resources by re-dispensing.

#### Scope

Assignment of in-use expiry of routine eye drop preparations that contain preservatives. This includes licensed and unlicensed products.

#### Out of scope (at this time)

- Patients undergoing eye surgery (considered higher risk)

- Preservative-free eye drops
- Eye ointments and Gel drops in tubes (Unknown whether higher risk. For further consideration)
- Specialist ophthalmic treatments including corneal damage, abrasions, post-eye-surgery
- Eye drop administration technique
- Infection control (hygiene) measures.

## PROPOSED RECOMMENDATIONS

To simplify and introduce a pragmatic approach to reduce unnecessary wastage from discarding and re-dispensing eye drop products for inpatients it is proposed that the following recommendations be adopted and endorsed by the Drug and Therapeutics Committee of each Trust:

- Assessment for suitability and continued use of Patients Own Drugs (PODs) for routine eye drops in secondary care inpatient setting.
- Application of in-use expiry in line with domiciliary use, as there is no evidence that the secondary care/nursing home setting is different in terms risk of eye drop contamination or subsequent infection.
- In-use expiry applied in line with the products' Summary of Product Characteristics (SmPC), or manufacturer's expiry if unlicensed, i.e. usually 28 days, or longer where novel containers feature an extended expiry.

### a) On admission

Assess PODs including eye drops for suitability of continued use in the inpatient setting:

- Correct product, strength, instructions, patient name
- Acceptable clean condition of the container
- Within stated unopened expiry
- If opened the opened date is marked on the container or the patient can state when it was opened, and this date can be applied.

### b) Inpatients

- Eye drops issued to inpatients: as per SmPC/Manufacturer's expiry, usually 28 days
- Anti-infective eye drops issued to patients with eye infections:
  - 28 days expiry (on the principle that bottle is not the vector)
    - The treatment will usually be complete within 7-10 days.
  - There is no need for a separate bottle for each eye (unless explicitly requested by the prescriber).

### c) On discharge

- "To take out" (TTO) eye drops do not routinely require re-dispensing to replace the products used within the inpatient setting.
- Eye drops in use should be quality-assessed for condition, quantity, accurate label and ongoing use.

- If suitable for ongoing use on discharge, the date opened and expiry date or an assigned expiry date should be marked on the product. This may be on the container or outer packaging in accordance with labelling SOP.
- The need for any additional supplies will be in line with local policy for provision of adequate medication including establishing if the patient has access to supplies at home.

#### **d) Post eye surgery**

The scope of this review was directed at routine eye drops. For reasons of complexity and lack of supporting evidence described above patients undergoing eye surgery, considered higher risk, are excluded. In the absence of any new evidence, the current advice remains in effect:

*“Containers used before an eye operation should be discarded at the time of the operation and fresh containers supplied postoperatively. A fresh supply should also be provided upon discharge from hospital; in specialist ophthalmology units, it may be acceptable to issue containers that have been dispensed to the patient on the day of discharge”.*

#### **e) Outpatients**

Eye drops issued to outpatients: as per SmPC/Manufacturer’s expiry, usually 28 days.

## **BACKGROUND AND REVIEW PROCESS**

### **Published Evidence**

The 1998 source<sup>2</sup> quoted in the guidance was a microbiological study that evaluated the extension of period of use from 7 days to 14 days for preserved eye drops in hospital practice and found no clinically significant difference in bacterial contamination rates and suggested this was safe to adopt. It also considered previous studies into the microbial content of eye drop residues that found no association between the level of contamination and location of use (that is, hospital ward and domicile)<sup>3</sup> suggesting that the difference in in use expiry periods is unfounded. The authors also noted that the incidence and degree of microbial contamination of eye drops used by hospital inpatients were low and micro-organisms isolated were predominantly those found on normal skin or as contaminants in the air and were not generally considered to represent a clinically significant threat to the patient<sup>4</sup>.

This issue of the current relevance of the Society’s guidance was raised and challenged in 2007 by two correspondents in the Pharmaceutical Journal on behalf of the UK Ophthalmic Pharmacy Group (UKOPG)<sup>5</sup>. They explained the issues comprehensively and also described a survey of 27 hospitals of differing sizes and specialities, which suggested the guidance was not followed in practice.

The topic was discussed again in 2012 by another correspondent in the Pharmaceutical Journal from UKOPG, who called for more research, a review of the guidance by an expert group and concluded *“we are unable to provide a definitive answer on in-use eye drop expiry”*<sup>6</sup>.

Since then there is a persisting lack of evidence and, although discussions have been ongoing in several forums, no further guidance has been forthcoming.

The BNF 76<sup>7</sup> Sept 2018 – March 2019 advises:

*Multiple application eye drops for use in hospital wards are normally discarded 1 week after first opening—local practice may vary. Individual containers should be provided for each patient. A separate container should be supplied for each eye only if there are special concerns about contamination.*

Based on the principles described there is no evidence for the current nominal 14 days expiry date, nor any evidence that there is additional risk warranting a shortening of expiry in a secondary setting vs home use. Likewise, the use of separate bottles for each eye is not supported as the risk of contamination of the bottle was negligible and other infection control factors such as rubbing the eyes, hand hygiene, use of towels, are much more likely to be implicated.

### **Practice within the South Central region:**

Similar to the authors in the 2007 article, we carried out a questionnaire of South Central Antimicrobial Network practices. A SurveyMonkey was designed and circulated to ascertain the practices of members' organisations. Findings are detailed in the pdf embedded below but a summary of the results are:

Our survey of 8 Trusts in our region showed:

Assessment of POD eye drops:

- 2 Trusts had a formal assessment process
- 4 Trusts made informal assessments
- 2 Trusts did not have an assessment process.

Inpatient expiry of eye drops (excluding anti-infectives):

- 4 Trusts assign 14 days
- 3 Trusts assign 28 days

Inpatient expiry of anti-infective eye drops:

- 5 Trusts assign 7 days
- 1 Trust assigns 14 days
- 1 Trust assigns 28 days.

When an eye infection is present:

- 4 Trusts supply all eye drop preparations as 2 bottles (Left and Right eye)
- 2 Trusts supply 2 bottles for the anti-infective drop only
- 1 Trust does not give 2 bottles.



SCAN eye drop  
expiry surveymonkey

Additionally Moorfields Eye Hospital do not supply separate bottles for bilateral infections unless specifically asked to do so by the prescribing doctor.

Our local results demonstrated that current practice varies widely between hospital Trusts. The RPSGB 2001 guidance<sup>(1)</sup> was not complied with, nor was there any apparent rationale for choices over another.

This review led to the recommendations above.

### **Paper produced by:**

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**Approved by South Central Antimicrobial Network April 2019**

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### **References**

1. RPSGB Guidance for use of ophthalmic preparations in hospital and care homes  
*Pharm J 1 Sept 2001*
2. D J Livingstone, G W Hanlon, S Dyke. Evaluation of an extended period of use for preserved eye drops in hospital practice *Br J Ophthalmol* 1998;82:473-5  
<https://bjoo.bmj.com/content/82/5/47>
3. DuBois SK, Pinney RJ, Davison AL. Investigation of the levels of bacterial contamination in used eye drops. *Pharm J* 1989;30 September:R39.
4. Douch MM, Davison AL. An investigation into the in-use contamination of Timolol eye drops used on the wards. *J Hosp Pharm Practice* 1992;2:483–6.
5. Use of preserved eye preparations —is the Society's guidance still relevant? The Pharmaceutical Journal, Vol. 278, p186 | URI: 10003286  
<https://www.pharmaceutical-journal.com/opinion/comment/use-of-preserved-eye-preparations-is-the-societys-guidance-still-relevant/10003286.article>
6. Advice on in-use shelf-life of eye drops. UK Ophthalmic Pharmacy Group (UKOPG) The Pharmaceutical Journal, 1 August 2012, online URI: 11105759  
<https://www.pharmaceutical-journal.com/opinion/correspondence/advice-on-in-use-shelf-life-of-eye-drops/11105759.article?firstPass=false>
7. British National Formulary 76

### **Resources**

- Local Pharmacy Standard Operating procedures on Dispensing and Patients Own Drugs (PODs)
- Collation of regional hospital Trusts Standard Operating procedures via Survey Monkey Dec 2018
- UK Ophthalmic Pharmacists Network Group – discussion thread Jan 2019
- Moorfields enquiry
  - DO NOT supply separate bottles for bilateral infections unless specifically asked for by the prescribing doctor