

Good Practice Guidance for Care Homes: Expiry Dates for Medication

This guidance is primarily for care home staff but also mentions good practice tips for prescribers and community pharmacists.

Introduction

There is much confusion about the issue of expiry dates within care homes. This has led to issues with patient safety and the wastage of medication. National guidance is not available for all products and this guidance will improve patient safety, reduce wastage, and support sensible medicine use in care homes.

Definition:

The expiry date is the point in time when a pharmaceutical product is no longer within an acceptable condition to be considered effective. The medication reaches the end of its 'shelf life'.

Depending on the product, the expiry date may be set as a fixed time:

- after manufacture
- after dispensing
- after opening of the manufacturer's container

The shelf life of products is determined by either the breakdown of the active drug or by risk of contamination. Not all drugs deteriorate at the same rate.

As part of good medicines management, patients should receive medication that is "in date"

- This will ensure that the active ingredients are fully effective
- To reduce the risk of contamination
- To ensure that it is safe to use

Medicines may go "out of date" because of:

- Inefficient prescribing or re-ordering systems
- Stockpiling
- Poor stock rotation and not checking expiry dates

The expiration date of a medicine is based on data, called accelerated stability data, from testing by the manufacturer, that shows the product will be good for a particular period of time if stored appropriately as advised by the manufacturer. It is a legal requirement for the expiry date to be printed on the original container.

Key points for basic storage guidelines

- Keep all medication in the original container in which they were dispensed
- Keep medicines in their original outer packaging, to protect from sunlight
- All medicines should be stored in a cool (below 25°C) dry place unless refrigeration is required (between 2°C and 8°C)
- The expiry date of products can change once opened
- Record the date opened and the calculated expiry on the medicine package/label if the manufacturers expiry date is affected by opening
- Be vigilant with product expiry dates
- Store as recommended by the manufacturer, check the information leaflet or access eMC at <https://www.medicines.org.uk/emc#gref>
- Use disposable gloves per preparation per patient when applying creams or ointments. i.e. if applying more than one preparation for the patient, gloves should be changed between preparations

Effects of using expired stock

- The active drug could become chemically unstable
- The effectiveness of the drug may change
- The breakdown of the drug may be toxic and harmful to the patient
- Increased risk of contamination

Examples of different wording of expiry dates

Wording on packaging	Definition
Best before January 2021	Discard 31/12/2020
Use before end January 2021	Discard 31/01/2021
Use by January 2021	Discard 31/12/2020
Discard after January 2021	Discard 31/01/2021
Expires January 2021	Discard 31/01/2021
Use within one month of opening	Self-explanatory (ideally every 28 days)
Discard 7 days after opening	Self-explanatory

In general, solid dose formulations have a longer expiry date than liquid preparations. The manufacturer's expiry on a container is the unopened expiry date. After opening, the expiry date may be affected or shortened. This should be highlighted on the medicine label or container by the person opening the container for the first time.

Certain external factors can affect expiry – contact with water, temperature, air or light. One example is antibiotics to be taken as a liquid formulation which are stored in the pharmacy as a dry powder, which is then reconstituted with water and then given a shorter expiry date.

Any product whose appearance suggests it may be unfit for use should be discarded – irrespective of expiry date. If there is any doubt, contact the community pharmacy for advice.

Monitored Dosage Systems (MDS)

Gold standard practice and the position endorsed across BLMK ICS is for all medications supplied to care homes to be dispensed in their original packaging alongside relevant MAR chart(s).

Monitored Dosage Systems (MDS) should be avoided; however, in the event that medication does have to be dispensed in an MDS it is recommended that medicines are discarded after 8 weeks if they have not been used.

Please note not all medicines are suitable for inclusion in MDS for example:

- Medicines that may be harmful when handled, e.g. cytotoxic products like methotrexate
- Medicines that are sensitive to moisture, e.g. effervescent tablets
- Light-sensitive medicines, e.g. chlorpromazine
- Medicines that should only be dispensed in glass bottles, e.g. glyceryl trinitrate (GTN)
- Medicines that should only be taken when required, e.g. painkillers
- Medicines whose dose may vary depending on test results, e.g. warfarin

For this reason, the community pharmacy may dispense these medications separately in the original container.

Example of products with Manufacturer Specific Expiry Dates	
Glyceryl Trinitrate tablets	8 weeks after first opening
Nicorandil	Manufacturer recommendation, then once opened each blister has a 30-day expiry . Use each blister strip at a time before opening the next.
Madopar capsules and tablets	2 weeks when dispensed into another container, but best stored in the original package. Keep bottle tightly closed.
Chlorpromazine Syrup	6 months after opening
Morphine sulphate Oral Solution	3 months after opening
Risperidone 1mg/ml Oral Solution	3 months after opening
Movicol Liquid	30 days after opening. Diluted solution – 24 hours

Some products now show an expiry symbol  or state a recommended period after opening e.g. discard after 3 months of opening. However, in the care home setting where storage conditions may be variable; it is recommended that the suggested expiry dates are followed.

When required medication (PRNs)

Be aware of the expiry date of PRNs especially if they are not used frequently. It is good practice to date and initial on opening all PRN medication for audit trail purposes.

Some Exceptions:

Certain oral preparations have a shorter shelf life once they have been opened. The following list is not exhaustive and is only intended to cover some of the most frequently used products. Please add your own products as they become known to you. Many specials will have a short shelf life.

Amitriptyline 25mg/5ml Solution SF

Manufacturer	Shelf Life (unopened)	Shelf Life (once opened)	Storage Requirements	Pack Size
Rosemont	24 months	6 months	Below 25°C	150ml
Thame Labs	12 months	30 days	Below 25°C	150ml
Wockhardt UK Ltd	24 months	1 month	Below 25°C	150ml

Amlodipine 10mg/5ml Oral Solution

Manufacturer	Shelf Life (unopened)	Shelf Life (once opened)	Storage Requirements	Pack Size
Rosemont	1 year	30 days	Fridge (2-8°C)	150ml

Captopril 25mg/5ml Oral solution SF

Manufacturer	Shelf Life (unopened)	Shelf Life (once opened)	Storage Requirements	Pack Size
Thame Labs	24 months	21 days	Below 30°C	100ml

Haloperidol 5ml/5mg Oral Solution

Manufacturer	Shelf Life (unopened)	Shelf Life (once opened)	Storage Requirements	Pack Size
Thame Labs	2 years	30 days	Below 25°C	100ml
Pinewood Healthcare	3 years	None noted	Below 25°C	100ml

Levothyroxine 100mcg/5ml Oral Solution

Manufacturer	Shelf Life (unopened)	Shelf Life (once opened)	Storage Requirements	Pack Size
Ten Pharma	As per bottle	28 days	Below 25°C	100ml
Wockhardt UK Ltd	2 years	3 months	Below 25°C	100ml
Creo Pharma Ltd	18 months	2 months	Below 25°C	100ml
Advanz Pharma	18 months	8 weeks	Below 25°C	100ml

Lorazepam 1mg/1ml Oral Solution

Manufacturer	Shelf Life (unopened)	Shelf Life (once opened)	Storage Requirements	Pack Size
Thame Labs	24 months	60ml – 30 days 150ml – 90 days	Fridge (2-8°C)	60ml 150ml

In all cases, the printed manufacturer's expiry date should be used if it is earlier than the suggested guideline dates

Recommendations for Care Home Staff:

Ordering medication

- Check current stock levels and quantities of medication being ordered are appropriate for requirement in order to avoid medication waste
- Do not forget to check medication not routinely stored in the medicines trolley e.g. PRNs, topical preparations
- A nominated member of staff should be responsible for ordering medication with a named deputy
- Request PRNs in original packs rather than in MDS. (MDS has reduced expiry therefore more frequent prescriptions will be necessary and more medication waste generated)

Receiving medication from pharmacy

- Check if there are any specific expiry date instructions on labels e.g. some liquid antibiotics
- Check that all medicines decanted in non-original container have an expiry date on them. If they do not return to the pharmacy to be appropriately labelled
- Check the medication is still within its expiry date

Storing medication

- Note and act on any specific storage instruction e.g. store in the fridge
- Rotate stock so the earliest expiry is at the front and therefore going to be used first i.e. 'first in, first out'
- Check expiry dates of medication stock at least once a month
- Medication is to remain in the container in which it was received – batches must not be mixed

Administering medication

- Check expiry date before each administration
- Record the date opened and the calculated expiry on the medicine package/label where appropriate e.g. creams, eye drops. Some packaging does not allow for the pharmacy label to be placed on the product e.g. eye drops. In these instances, the outer packaging will have to be endorsed with the date of opening. It is essential that the product remains in the outer packaging throughout duration of the treatment
- Highlight any short expiry as a reminder to all staff
- Any product whose appearance suggests it may be unfit for use should be discarded – irrespective of expiry date. If there is any doubt, contact the community pharmacy for advice

Recommendations for Prescribers:

Prescribing

- Prescribe the appropriate quantity of medication in order to avoid waste
- Quantities which appear to be excessive should be queried
- Directions should be clear rather than “as directed” or “when required”
- PRN medication should have a recommended duration of treatment

Repeat prescribing process

- Consider nominating a named practice member to process care home prescription requests and to act as contact known to the care home to deal with queries

Recommendations for Community Pharmacists:

Dispensing medication

- If decanting from bulk container, label with appropriate expiry date
- Highlight any shortened expiry dates.
- Do not obscure expiry dates with labels
- If the care home generally receives medicines in an MDS, inform staff if a particular medicine is unsuitable for inclusion due to problems with stability. The foil packing around individual tablets must not be cut and placed in an MDS; doing so has potential to cause harm if inadvertently swallowed by the service user

Table of suggested expiry of products from date of Opening

Formulation Type	<u>Suggested Expiry after opening unless otherwise stated by manufacturer and still within manufacturer's expiry date</u>	Comments
Tablets & capsules in original blister strips or container with printed expiry date	Manufacturer's expiry date as printed on original box or individual foils (check patient information leaflet)	PRN (when required) medication, wherever possible, should be used from the manufacturer's original pack. (The expiry date is printed on each strip). Medicines kept for use in next month should be recorded in the 'carried forward' section of the MAR chart
Tablets & capsules stored in dispensing bottles from pharmacy	6 months from date of dispensing	Or as advised by Pharmacy
Aspirin Dispersible tablets stored in dispensing bottles from pharmacy	1 month from date of dispensing	Dispersible aspirin is not suitable (sensitive to moisture) for MDS/compliance aids and is often dispensed in bottles/original container
Tablets/Capsules stored in pharmacy packed blisters - Monitored Dosage System (MDS)	8 weeks from date of dispensing	
Oral liquids (in original manufacturer's packaging)	6 months from date of opening or follow manufacturer's guidance e.g. for specially manufactured items or expiry date on packaging. For antibiotics, check with community pharmacist if not clear from label	Estimate the amount of any liquids carried over. Medicines retained for use should be recorded in the 'carried forward' section of the MAR chart.
Oral liquids (decanted into pharmacy bottles)	3 months from when the original container was opened	The pharmacy should put an expiry date on the bottle before sending to the home, taking into account when opened in the pharmacy
External liquids (lotions, shampoos & bath oils)	6 months from date of opening	Or manufacturers recommendation if shorter
Creams/Ointments in pump dispensers	Manufacturer's expiry date	Write the DATE and initial when opening on the container
Creams/Ointments in tubes	3 months from date of opening, or manufacturers recommendation if shorter	
Creams/Ointments in pots/tubs	1 month from date of opening	
Creams/Ointments decanted from a bulk container	1 month, or seek dispensing pharmacist for advice	
Cream/Ointment specially made for individual	Seek dispensing pharmacist advice	

Formulation Type	<u>Suggested Expiry after opening</u> unless otherwise stated by manufacturer and still within manufacturer's expiry date	Comments
Sterile Eye/Ear/Nose drops/Ointments	28 days from date of opening	Some items may need storing in the fridge once opened
Rectal Diazepam	Individual foil wrapped tubes	Manufacturer's expiry date
	Non-foil wrapped	6 months from date of opening
SIP Feeds/oral supplementary nutrition	Unopened, follow Manufacturer's expiry date.	Follow manufacturer's guidance once opened (most keep for 24 hours in fridge)
Inhalers	Manufacturer's expiry date	Some inhalers have a shortened expiry after dispensing or once opened. These should have a written expiry date by the pharmacy
Glyceryl Trinitrate Sprays	Manufacturer's expiry date	
Insulin	Unopened: Manufacturer's expiry date when stored in a fridge between 2°C and 8°C Once Opened: 4 weeks for insulin vials and pens unless otherwise stated. When in use can be kept at normal room temperature (less than 25°C)	One pen/cartridge will often be sufficient per month. Ask the GP to prescribe the nearest number of pens/cartridges need per month to reduce stockpiling

These guidelines are subject to correct storage at ambient temperatures recommended by manufacturers and are based on general consensus and not evidence-based due to the lack of information available

There is insufficient data in published literature and no up-to-date authoritative resource that provides data on the stability of medicines when stored outside of the manufacturer's original packaging. Conversely there are illustrative examples of degradation of medicines when stored outside of their original packaging.

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References / Resources used:

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- Royal Pharmaceutical Society (RPS). Improving patient outcomes. The better use of multi-compartment compliance aids July 2013
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- Good Practice Guidance: Medication Expiry dates for use in Care Homes – NHS Wales University Health Board
- Summary of product characteristics (SmPC) for Glyceryl Trinitrate 500 micrograms tablets, last updated on eMC 12 Nov 2019 https://www.medicines.org.uk/emc/product/5827/smpc#SHELF_LIFE
- Summary of product characteristics (SmPC) for Ikorel 10mg tablets, last updated on eMC 21 April 2021 https://www.medicines.org.uk/emc/product/9071#SHELF_LIFE
- Summary of product characteristics (SmPC) for Chlorpromazine Hydrochloride 25mg/5ml Oral Syrup, last updated on eMC 16 Nov 2020 https://www.medicines.org.uk/emc/product/6699#SHELF_LIFE
- Summary of product characteristics (SmPC) for Morphine Sulfate 10mg/5ml Oral Solution, last updated on eMC 28 April 2021 https://www.medicines.org.uk/emc/medicine/317#SHELF_LIFE
- Summary of product characteristics (SmPC) for Risperidone 1mg/ml Oral Solution, last updated on eMC 04 Aug 2020 https://www.medicines.org.uk/emc/product/4364/smpc#SHELF_LIFE
- Summary of product characteristics (SmPC) for Movicol Liquid, last updated on eMC 11 Oct 2019 https://www.medicines.org.uk/emc/product/4641/smpc#SHELF_LIFE