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.

This guidance is primarily for care home staff but also mentions good practice for the prescriber and community pharmacist.

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.
- Be vigilant with product expiry dates.
- Store as recommended by manufacturer.

Examples of different wording of expiry dates

<table>
<thead>
<tr>
<th>Wording on packaging</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best before January 2014</td>
<td>Discard 31/12/2013</td>
</tr>
<tr>
<td>Use before end January 2014</td>
<td>Discard 31/01/2014</td>
</tr>
<tr>
<td>Use by January 2014</td>
<td>Discard 31/12/2013</td>
</tr>
<tr>
<td>Discard after January 2014</td>
<td>Discard 31/01/2014</td>
</tr>
<tr>
<td>Expires January 2014</td>
<td>Discard 31/01/2014</td>
</tr>
<tr>
<td>Use within one month of opening</td>
<td>Self explanatory</td>
</tr>
<tr>
<td>Discard 7 days after opening</td>
<td>Self explanatory</td>
</tr>
</tbody>
</table>

Effects of using expired stock

- The active drug becomes 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

Generally speaking, solid dose formulations have a longer expiry date than liquid preparations. Certain external factors can affect expiry – contact with water, temperature, air or light e.g. antibiotics to be taken as a liquid formulation are stored in the pharmacy as a dry powder which is then reconstituted with water and 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.
Expiry after opening
The manufacturer’s expiry on a container is the unopened expiry date. Certain oral preparations have a shorter shelf life once they have been opened. This should be highlighted on the medicine label or container. Your community pharmacy may be able to supply you with ‘date opened’ labels.
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.

<table>
<thead>
<tr>
<th>Item</th>
<th>Shelf life once opened</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asasantin Retard Capsules (aspirin and dipyridamole MR)</td>
<td>6 weeks</td>
</tr>
<tr>
<td>Chlorpromazine Syrup 25mg/5ml &amp; 100mg/5ml (Rosemont)</td>
<td>6 months</td>
</tr>
<tr>
<td>Gastrocote Liquid</td>
<td>1 month</td>
</tr>
<tr>
<td>Oramorph 10mg/5ml Liquid</td>
<td>3 months</td>
</tr>
<tr>
<td>Oramorph concentrated 20mg/ml Liquid</td>
<td>4 months</td>
</tr>
<tr>
<td>Persantin Retard Capsules (dipyridamole MR)</td>
<td>6 weeks</td>
</tr>
<tr>
<td>Risperdal 1mg/ml Liquid</td>
<td>3 months</td>
</tr>
</tbody>
</table>

See table of suggested expiry dates for other products

Monitored Dosage Systems (MDS)
It is recommended that medicines dispensed in a MDS 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, nicorandil
- Light-sensitive medicines, e.g. chlorpromazine
- Medicines that should only be dispensed in glass bottles, e.g. glyceryl trinitrate tablets (GTN)
- Medicines that should only be taken when required, e.g. painkillers
- Medicines whose dose may vary depending on test results, e.g. warfarin

When required (PRN) medicines;
- should be dispensed in their original packs whenever possible, to give the longest shelf life
- can be carried forward each month provided they remain in date
- should be stock-rotated to ensure that the oldest medicines are used first
- must NOT be returned and re-ordered each month, as this is unnecessary and wasteful.

NB – Be aware of the expiry date of PRNs especially if they are not used frequently

Before you request prescriptions each month;
- check the current stock levels of medication, especially items which are not supplied in individually packed monitored dosage systems
- report excess quantities returned regularly - ask the GP to review if it is still needed, or to prescribe smaller quantities
Good Practice For Care Home Staff

Ordering medication
- Check quantities ordered are appropriate for requirement in order to avoid medication waste. Do not forget to check medication not routinely stored in the medicines trolley.
- Nominated member of staff to be responsible for ordering with 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 e.g. some liquid antibiotics.
- 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.
- Check expiry dates of stock monthly.
- Medication is to remain in the container in which it was received – batches must not be mixed.

Administering medication
- Check expiry date.
- 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 this 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.

Good Practice For Prescriber

Prescribing quantities
- Prescribe appropriate quantity of medication in order to avoid waste.
- Quantities ordered which appear to be excessive should be queried.

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.

Good Practice for Community Pharmacy

Dispensing medication
- If decanting from bulk container, label with appropriate expiry date
- Shortened expiry dates to be highlighted
- Do not obscure expiry date with label
- If care home generally receives medicines in 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 place in MDS, doing so has potential to cause harm if inadvertently swallowed by service user.
<table>
<thead>
<tr>
<th>Formulation and packaging</th>
<th>Suggested expiry after opening unless otherwise stated by manufacturer and still within manufacturer’s expiry date</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubs of creams / ointments</td>
<td>1 month</td>
<td>The contents are exposed and can become contaminated</td>
</tr>
<tr>
<td>Tubs of creams/ ointment decanted from bulk container</td>
<td>1 month or seek community pharmacy advice</td>
<td>As above, and decanting from bulk container into another container could introduce contamination</td>
</tr>
<tr>
<td>Tubs of cream specially made for individual</td>
<td>Seek community pharmacy advice</td>
<td>Dependant on stability of product</td>
</tr>
<tr>
<td>Tubes of creams/ ointments</td>
<td>3 months</td>
<td>Closed container, contents not openly exposed to environment</td>
</tr>
<tr>
<td>Pump dispenser packs of creams/ ointment</td>
<td>Manufacturer’s expiry refer to expiry symbol</td>
<td>Closed container, contents not openly exposed to environment</td>
</tr>
<tr>
<td>Tablets/ capsules in monitored dosage systems</td>
<td>2 months</td>
<td>No batch number or expiry printed on MDS</td>
</tr>
<tr>
<td>Tablets/ capsules/ liquids decanted into pharmacy bottle</td>
<td>Seek community pharmacy advice</td>
<td>Dependant on stability of product</td>
</tr>
<tr>
<td>Part pack of tablets/ capsules remaining in manufacturer’s blister pack dispensed in pharmacy box/ dispensed in original pack</td>
<td>Manufacturer’s expiry on blister. If no expiry visible contact community pharmacy for advice</td>
<td>Closed container, contents not openly exposed to environment. If no visible expiry there is risk that product may have expired.</td>
</tr>
<tr>
<td>Oral liquids in original container</td>
<td>6 months unless otherwise specified by manufacturer</td>
<td>Exposure of liquid to environment when dose is measured can introduce contamination</td>
</tr>
<tr>
<td>Eye, Ear, Nose drops/ ointments</td>
<td>1 month</td>
<td>Manufacturer’s recommendation</td>
</tr>
<tr>
<td>Inhalers</td>
<td>Manufacturer’s expiry / refer to dose counter if available</td>
<td>Closed container, contents not openly exposed to environment</td>
</tr>
<tr>
<td>Insulin</td>
<td>4 weeks for insulin vials and pens unless otherwise stated</td>
<td>The sterile seal has been broken and may be stored outside the fridge</td>
</tr>
</tbody>
</table>

Some products now show an expiry symbol e.g. . However, in the care home setting where storage conditions may be variable it is recommended that the above suggested expiry dates are followed. 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.
Resources
- Continuing Professional Pharmacy Education (CPPE) Supporting Care Homes in Medicines Management April 2007.
- Pharmaceutical Journal – How stable are medicines moved from original packs into compliance aids January 2006 Vol 276
- Royal Pharmaceutical Society GB Handling Medicines in Social Care
- Guidance for Expiry Dates for Medicines in Use in Care Homes -Coventry and Warwickshire APC RD 006
- Local Pharmaceutical Committee Sheffield

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Guidance approved by: Sheffield APG

Date

Review date June 2016