



**Medication storage and dating of select eye, ear and injectable medications in Long Term Care**

The table below provides information on the stability, storage, and expiration of select eye drops, ear drops, and injectables that are used in the Calgary Zone Long Term Care Facilities (formulary and select non-formulary products included). Eye and ear drops, and injectables should be labeled with the 'date of opening' and/or 'date to discard' according to manufacturer's instructions. If the manufacturer does not provide a time frame for discarding the product after opening (or change in storage conditions), then the 28-day standard of practice is recommended<sup>1</sup>.

Storing medications at the appropriate temperature, humidity, and light conditions is crucial since these factors directly affect the stability of products. It is recommended that all patients and healthcare professionals are aware of the suggested storage conditions and discard information of medications before using. When unsure, check the manufacturer's information directly for the most up-to-date information.

- follow proper hand hygiene practices for product administration<sup>2</sup>
- inspect product before administration; when there are visible signs or suspicion of contamination, products should be discarded immediately.
- keep all drugs in a safe place and out of the reach of other clients, visitors, children and pets.
- keep product tightly closed when not in use. • store in carton or cardboard packaging if available to protect from light.
- store eye/ear drops upright

• **Expiration date** is the last date a manufacturer can guarantee the potency, purity and physical characteristics of a medication, and beyond which they recommend the product not be used<sup>3</sup>. It is determined by stability testing from the manufacturer following good manufacturing practices<sup>4</sup>. Unless otherwise noted in the package label, insert or product monograph, medication should stay safe and effective until the expiration date if stored correctly.

If you have further questions or concerns, please reach out to a pharmacist or pharmacy provider for more information.

Generic Name	Brand Name	Strength Dosage Form (route)	Discard up to 28 days after opening	Specific Manufacturer's Instructions <sup>1A,1B</sup>	Calgary Zone LTC Formulary Status
atropine sulfate	Isopto Atropine® (Alcon)	1% solution (ophthalmic)	✓ *	store at room temperature. (1A)	F
betaxolol	Betoptic-S®	0.25% suspension (ophthalmic)	✓ *	store at room temperature (15°C to 30°C), Suspension must be well shaken before use. Store the bottle in the outer container. (1A)	F
bimatoprost	Lumigan RC®	0.01% solution (ophthalmic)	✓ *	Lumigan RC: store in the original container at 2°C to 25°C. Discard unused solution at the end of treatment. (1A)	NF-ASL
bimatoprost	Vistitan®	0.03% solution (ophthalmic)	30 days	Vistitan: store in the original container at 2°C to 25°C. Discard unused solution at the end of treatment. Discard the unused portion 30 days after opening. (1A)	NF-ASL
brimonidine (with PURITE)	Alphagan-P® (also see generic)	0.15% solution (ophthalmic)	✓ *	store at 15°C to 25°C. Discard unused solution at the end of treatment. (1A)	NF-ASL
brimonidine	brimonidine-P (AA Pharma)	0.15% solution (ophthalmic)	✓ *	store at 15°C to 30°C. Discard unused solution at the end of treatment. (1A)	NF-ASL
brimonidine	Alphagan® Brimonidine Tartrate (Hikma) Med-Brimonidine Riva-Brimonidine (also see other generic)	0.2% solution (ophthalmic)	✓ *	store at 15°C to 25°C. Discard unused solution at the end of treatment. (1A)	F
brimonidine	Sandoz-Brimonidine	0.2% solution (ophthalmic)	✓ *	store at 4°C to 30°C. (1A)	F
brinzolamide / brimonidine	Simbrinza®	1% * 0.2% suspension (ophthalmic)	125 days	store at 2°C to 25°C. Discard 125 days after opening the 10 mL bottle. (1A)	NF-ASL
brimonidine / timolol	Combigan® (also see generic)	0.2% * 0.5% solution (ophthalmic)	✓ *	store at room temperature (15°C to 25°C). Protect from light. (1A)	NF-ASL
brimonidine / timolol	Apo-Brimonidine-Timop	0.2% * 0.5% solution (ophthalmic)	✓	store at room temperature 15°C to 30°C. Protect from light. Discard unused portion 28 days after opening. (1A)	NF-ASL
brinzolamide	Azopt®	1% suspension (ophthalmic)	✓ *	Store at 4°C to 30°C. Keep bottle tightly closed when not in use. (1A)	NF-ASL
brinzolamide / timolol	Azarga®	1% * 0.5% suspension (ophthalmic)	60 days	Store at 2°C to 30°C. Discard 60 days after opening. (1A)	NF-ASL
carboxymethylcellulose sodium	Refresh® Tears®	0.5% solution (ophthalmic)	✓ *		F
carboxymethylcellulose sodium, preservative -free (PF)	Refresh® Celluvisc®	1% (supplied as minims) solution (ophthalmic)	Immediately after use		RS
ciprofloxacin	Ciloxan®	0.3% solution or ointment (ophthalmic)	✓ *	Store in the carton at room temperature (2°C to 30°C). (1A)	F

\* indicates the discard date is defaulting to the standard 28 days as no additional information is available from the manufacturer

Generic Name	Brand Name	Strength Dosage Form (route)	Discard up to 28 days after opening	Specific Manufacturer's Instructions <sup>1A,1B</sup>	Calgary Zone LTC Formulary Status
ciprofloxacin / dexamethasone	Ciprodex®	0.3% * 0.1% suspension (otic)	✓ *	Store at room temperature (15°C to 30°C). Avoid freezing. (1A)	NF
dexamethasone	Maxidex®	0.1% suspension or ointment (ophthalmic)	✓ *	Store at room temperature. (1A)	F
dexamethasone / neomycin / polymyxin B	Maxitrol®	0.1% * 3.5mg/g * 6000 units/g suspension or ointment (ophthalmic)	✓ *	Do not store above 25°C. Do not refrigerate. (1A)	F
diclofenac	Voltaren Ophtha® Sandoz-Diclofenac Ophtha	0.1% solution (ophthalmic)	✓ *	Store at 20°C to 25°C. Excursions permitted to 15°C to 30°C. Protect from light. (1A and 1A)	F
dorzolamide	Trusopt® (also see generics)	2% solution (ophthalmic)	✓ *	Trusopt® Store at 15°C to 25°C. Protect from light. (1A)	F
dorzolamide	Sandoz Dorzolamide	2% solution (ophthalmic)	✓ *	Sandoz Dorzolamide: store at 2°C to 25°C. Protect from light. (1A)	F
dorzolamide	Jamp-Dorzolamide	2% solution (ophthalmic)	40 days	Jamp-Dorzolamide: store at 15°C to 30°C. Protect from light. Once opened, the bottle may be stored at 15°C to 30°C for up to 40 days. Discard unused portion 40 days after opening. (1A)	F
dorzolamide / timolol	Cosopt® (also see generics)	2% * 0.5% solution (ophthalmic)	✓ *	Store at 15°C to 25°C. Protect from light. (1A)	F
dorzolamide / timolol	Sandoz-Dorzolamide/Timolol	2% * 0.5% solution (ophthalmic)	✓ *	Store at 2°C to 25°C. Protect from light. (1A)	F
dorzolamide / timolol	Apo-Dorzo-Timop	2% * 0.5% solution (ophthalmic)	✓ *	Store at 15°C to 30°C. Protect from light. (1A)	F
erythromycin	Steri-Med	5 mg/g ointment (ophthalmic)	✓ *	Store at room temperature (15°C to 30°C). Protect from freezing. Keep tightly closed. (1A)	F
erythromycin	pdp-Erythromycin	5 mg/g ointment (ophthalmic)	✓ *	Store at room temperature (15°C to 30°C). Protect from freezing. (1A)	F
flumethasone / clioquinol	Locacorten Vioform®	0.02% * 1% solution (otic)	✓ *	Protect from heat and light. Store between 15°C to 30°C. Eardrops may turn yellow when exposed to air and may cause staining of the skin, nails, hair or fabrics. (1A)	F
framycetin / gramicidin / dexamethasone	Sofracort®	5mg/mL * 0.05mg/mL * 0.5mg/mL solution (ophthalmic, otic)	✓	Store between 15°C to 25°C. Do not refrigerate. Use within 4 weeks of opening. (1A)	F
fusidic acid	Fucithalmic®	1% Viscous solution (ophthalmic)	✓	Discard 28 days after first opening. Store at 2°C to 25°C. (1A)	F
gatifloxacin	Zymar®	0.3% solution (ophthalmic)	✓	Store at 15°C to 25°C. Protect from freezing. Keep bottle tightly closed in the outer carton (to protect from light) and discard 28 days after opening. (1A)	F
latanoprost	Xalatan® Apo-Latanoprost Jamp-Latanoprost Sandoz-Latanoprost Teva-Latanoprost Med-Latanoprost	50 mcg/mL (0.005%) solution (ophthalmic)	42 days	Store unopened bottle under refrigeration (2°C to 8°C) . Protect from light. Once opened, bottle may be stored at room temperature up to 25°C, for up to 6 weeks. (1A)	F
latanoprost / timolol	Xalacom® Med-Latanoprost-Timolol ACT-Latanoprost-Timolol Jamp-Latanoprost-Timolol	50mcg/mL(0.005%) * 5mg/mL(0.5%) solution (ophthalmic)	70 days	Store unopened bottle under refrigeration (2°C to 8°C). Protect from light. Once opened, the 5 ml container may be stored at room temperature up to 25°C for 10 weeks. Protect from light. (1A)	F
latanoprostene bunmod	Vyzulta™	0.024% solution (ophthalmic)	56 days	Unopened bottle should be stored refrigerated at 2°C to 8°C. Once opened it may be stored at 2°C to 25°C for 8 weeks. (1A)	NF
moxifloxacin	Vigamox® Apo-Moxifloxacin Sandoz-Moxifloxacin Moxifloxacin (Sanis)	0.5% solution (ophthalmic)	✓	Store at 4°C to 25°C. Discard 28 days after opening. (1A)	F

\* indicates the discard date is defaulting to the standard 28 days as no additional information is available from the manufacturer

Generic Name	Brand Name	Strength Dosage Form (route)	Discard up to 28 days after opening	Specific Manufacturer's Instructions <sup>1A,1B</sup>	Calgary Zone LTC Formulary Status
moxifloxacin	pms-Moxifloxacin	0.5% solution (ophthalmic)	✓	Store at 2°C to 25°C. Preserve in tight containers. Protect from light. Store in cardboard outer box when not in use. Discard 28 days after opening. (1A)	F
moxifloxacin	Jamp-Moxifloxacin AG-Moxifloxacin	0.5% solution (ophthalmic)	✓	Store at 15°C to 30°C. The In-use period of the product is 28 days. Discard the product 28 days after opening. (1A)	F
ofloxacin	Ocuflox®	0.3% solution (ophthalmic)	✓ *	Store at 15°C to 25°C (1A) -monograph mentions 24 months but it may only apply to unopened bottle	F
pilocarpine	Isopto-carpine®	2% solution (ophthalmic)	✓ *	Store at room temperature. Avoid excessive heat. Keep bottle tightly closed when not in use. (1A)	F
polymyxin B / bacitracin	Sterisporin Ointment	10 000 unit/g * 500 unit/g ointment (ophthalmic)	✓ *		F
polymyxin B / gramicidin	Polysporin Eye and Ear Drops®	10 000 unit/mL * 0.25mg/mL solution (ophthalmic, otic)	✓ *	Store between 15°C to 30°C. (1B)	F
prednisolone	Pred Forte® (also see generics)	1% suspension (ophthalmic)	✓ *	Store at 15°C to 25°C. Protect from freezing. Store in an upright position. (1A)	F
prednisolone	Sandoz-Prednisolone Teva-Prednisolone	1% suspension (ophthalmic)	✓ *		F
sodium chloride hypertonic	Muro 128®	5% ointment (ophthalmic)	✓ *	Store at 15°C to 25°C. Keep tightly closed. Do not Freeze (1B)	F
sodium chloride hypertonic	Muro 128®	5% solution (ophthalmic)	✓ *	Store upright at 15°C to 25°C. Keep tightly closed. Do not Freeze (1B)	F
cromolyn sodium	Cromolyn®	2% solution (ophthalmic)	✓	Store between 15°C to 30°C. Protect from light. Discard the opened bottle after 4 weeks. (1A)	F
tetracaine	Minims Tetracaine 0.5% (Bausch + Lomb)	0.5% solution (ophthalmic)	Immediately after use		F
timolol	Timoptic® (also see generics)	0.5% solution (ophthalmic)	✓ *	Store at room temperature (15°C to 25°C). Protect from light. (1A)	F
timolol	Apo-Timop	0.5% solution (ophthalmic)	✓ *		F
timolol	Jamp-Timolol	0.5% solution (ophthalmic)	30 days	Store at room temperature (15°C to 25°C). Protect from light. Once opened, store at room temperature up to 25°C, out of direct light. In-use period of 1 month. (1A)	F
timolol	Sandoz-Timolol	0.25% and 0.5% solution (ophthalmic)	30 days	Store at room temperature (15°C to 25°C). Protect from light. It should not be used for more than one month after opening. (1A)	F
timolol	Timoptic XE® (also see generics)	0.5% gel solution (ophthalmic)	30 days	Store at room temperature (15°C to 25°C). Protect from light and freezing. Should not be used for more than one month after opening. (1A)	F
timolol	Timolol Maleate-EX (Sandoz)	0.25% and 0.5% gel solution (ophthalmic)	30 days	Store at 4°C to 30°C. It should not be used for more than one month after opening. (1A)	F
tobramycin	Tobrex® Sandoz Tobramycin	0.3% solution (ophthalmic)	✓	Store at room temperature (15°C to 30°C). Discard 28 days after initial opening. Keep tightly closed. (1A)	F
tobramycin	Tobrex®	0.3% ointment (ophthalmic)	✓	Store at room temperature (15°C to 30°C). Discard 28 days after initial opening. Keep tightly closed. (1A)	F
tobramycin / dexamethasone	Tobradex®	0.3% * 0.1% suspension (ophthalmic)	✓ *	Store suspension in an upright position at room temperature. (1A)	F
tobramycin / dexamethasone	Tobradex®	0.3% * 0.1% ointment (ophthalmic)	✓ *	Store ointment at 2°C to 25°C. (1A)	F
travoprost	Travatan Z® Sandoz-Travoprost	0.004% solution (ophthalmic)	✓ *	Store between 2°C to 25°C. (1A)	NF-ASL

\* indicates the discard date is defaulting to the standard 28 days as no additional information is available from the manufacturer

Generic Name	Brand Name	Strength Dosage Form (route)	Discard up to 28 days after opening	Specific Manufacturer's Instructions <sup>1A,1B</sup>	Calgary Zone LTC Formulary Status
travoprost / timolol	Duo trav <sup>®</sup> PQ Apo-Travoprost-Timop PQ	0.004% * 0.5% solution (ophthalmic)	✓ *	Store at 2°C to 25°C. No refrigeration required. (1A)	NF
white petrolatum / mineral oil	Refresh <sup>®</sup> Lacri-lube <sup>®</sup>	57.4% * 42.5% ointment (ophthalmic)	✓	Store at 15°C to 25°C. Discard 4 weeks after opening. (1A)	F
insulin aspart	NovoRapid <sup>®</sup> (vial or Penfill cartridge)	100 unit/mL	✓	Not in-use (unopened): it should be stored between 2°C to 8°C (in a refrigerator) not near a freezing compartment. Do not freeze. Do not expose to excessive heat. In order to protect from light NovoRapid should be kept in the outer carton.  In-use (opened): Do not refrigerate. Store below 30°C. Use within 4 weeks. (1A)	NF
insulin aspart	NovoRapid <sup>®</sup> (FlexTouch prefilled pen)	100 unit/mL	✓	Not in-use (unopened): its should be stored between 2°C to 8°C (in a refrigerator) not near a freezing compartment. Do not freeze. Do not expose to excessive heat. In order to protect from light, it should be kept in the outer carton.  In-use (opened): Store below 30°C. Can be stored in a refrigerator (2-8°C). Do not freeze. Use within 4 weeks. (1A)	NF
insulin aspart	Trurapi <sup>®</sup> (SoloStar prefilled pen and cartridge)	100 unit/mL	✓	Not in-use (unopened): store in a refrigerator (2°C to 8°C) but not in the freezer. Do not use if it has been frozen.  In-use (opened): store at room temperature (15°C to 30°C) and must be used within 4 weeks or be discarded, even if they still contain Trurapi. Protect from direct heat and light. (1A)	RS
insulin detemir	Levemir <sup>®</sup> (Penfill cartridge)	100 unit/mL	42 days	Not in-use (unopened):store between 2°C to 8°C (in a refrigerator) not near a freezing compartment. Do not freeze. In order to protect from light, Levemir Penfill cartridges should be kept in the outer carton.  In-use (opened): store below 30°C. Do not refrigerate. Do not freeze. Discard after 42 days. (1A)	NF
insulin detemir	Levemir <sup>®</sup> (FlexTouch prefilled pen)	100 unit/mL	42 days	Unopened (not in-use): store between 2°C to 8°C (in a refrigerator) not near a freezing compartment. Do not freeze. In order to protect from light, keep the cap on when Levemir FlexTouch is not in use.  Opened (In-Use): store below 30°C. Can be stored in a refrigerator (2°C to 8°C). Discard after 42 days. (1A)	NF
insulin glargine	Basaglar <sup>®</sup> (cartridge and prefilled KwikPen)	100 unit/mL	✓	Unopened (not in-use): store in a refrigerator, between 2°C to 8°C. Do not freeze. Do not use if it has been frozen. If it freezes, discard it.  Opened (in-use): store at room temperature, below 30°C and away from direct heat and light. Must be used within 28 days, and should be discarded after 28 days even if they still contain BASAGLAR. If it freezes, discard it. (1A)	F
insulin glargine	Lantus <sup>®</sup> (prefilled Solostar pen)	100 unit/mL	✓	Unopened (not in-use): store in a refrigerator, between 2°C to 8°C. Keep away from direct heat and light. It should not be stored in the freezer and should not be allowed to freeze. If it freezes or overheats, discard it.  In-use (opened): keep unrefrigerated (15°C to 30°C) for up to 28 days away from direct heat and light, as long as the temperature is not greater than 30°C. If it overheats or if there is any remaining insulin after 28 days, discard it. It should not be stored in the freezer and should not be allowed to freeze. If it freezes, discard it. (1A)	NF
insulin human biosynthetic isophane	Humulin N <sup>®</sup> (prefilled KwikPen)	100 unit/mL	✓	Unopened (not in-use): store in a cold place (2°C to 8°C), preferably in a refrigerator, but not in a freezer. Do not let it freeze or leave it in direct sunlight.  In-use (opened): store at room temperature and discard after 28 days.	F
insulin human biosynthetic regular	Humulin R <sup>®</sup> (prefilled KwikPen)	100 unit/mL	✓	Unopened (not in-use): store in a cold place (2°C to 8°C), preferably in a refrigerator, but not in a freezer. Do not let it freeze or leave it in direct sunlight.  In-use (opened): store at room temperature and discard after 28 days.	F

\* indicates the discard date is defaulting to the standard 28 days as no additional information is available from the manufacturer

Generic Name	Brand Name	Strength Dosage Form (route)	Discard up to 28 days after opening	Specific Manufacturer's Instructions <sup>1A,1B</sup>	Calgary Zone LTC Formulary Status
insulin human biosynthetic regular / insulin human biosynthetic isophane	Humulin® 30/70 (cartridge)	30 unit/mL * 70 unit/mL	✓	Unopened (not in-use): store in a cold place (2°C to 8°C), preferably in a refrigerator, but not in a freezer. Do not let it freeze or leave it in direct sunlight. In-use (opened): store at room temperature and discard after 28 days.	F
insulin lispro	Humalog® (prefilled KwikPen)	100 unit/mL	✓	Unopened (not in-use): store in a refrigerator between 2°C to 8°C. It should not be frozen or exposed to excessive heat or sunlight. In-use (opened): store at room temperature (below 30°C and away from direct heat and light) and discard after 28 days. (1A)	NF
insulin lispro	Admelog®	100 unit/mL pens	✓	Unopened (not in-use): store in a refrigerator (2°C to 8°C), but not in the freezer. Protect from light. Do not use if it has been frozen. In-use (opened): store at room temperature, below 30°C, and must be used within 28 days or be discarded even if they still contain Admelog. Protect from direct heat and light. (1A)	RS
insulin lispro / insulin lispro protamine	Humalog® Mix 25 (prefilled KwikPen)	25% insulin lispro * 75% insulin lispro protamine	✓	Unopened (not in-use): store in a refrigerator between 2°C to 8°C. It should not be frozen or exposed to excessive heat or sunlight. In-use (opened): store at room temperature (below 30°C and away from direct heat and light) and discard after 28 days. (1A)	RS
insulin lispro / insulin lispro protamine	Humalog® Mix 50 (prefilled KwikPen)	50% insulin lispro * 50% insulin lispro protamine	✓	Unopened (not in-use): store in a refrigerator between 2°C to 8°C. It should not be frozen or exposed to excessive heat or sunlight. In-use (opened): store at room temperature (below 30°C and away from direct heat and light) and discard after 28 days. (1A)	RS
liraglutide	Saxenda® prefilled pens	6 mg/mL	30 days	Unopened (not in-use): store in a refrigerator (2°C to 8°C). Do not store in the freezer or directly adjacent to the refrigerator cooling element. Do not freeze and do not use if it has been frozen. In-use (opened): store for 30 days at room temperature (not above 30°C) or in a refrigerator (2°C to 8°C).	NF
semaglutide	Ozempic®	1.34 mg/mL and 2.68 mg/mL pens	56 days	Unopened (not in-use): store refrigerated (2°C to 8°C). Protect from excessive heat and light. Do not freeze and do not use if it has been frozen. In use (opened): store at room temperature below 30°C or refrigerate at 2°C to 8°C. Discard after 8 weeks. Protect from excessive heat and light. Do not freeze and do not use if it has been frozen. (1A)	NF

\* indicates the discard date is defaulting to the standard 28 days as no additional information is available from the manufacturer

#### References

- Guidelines for medication and vaccine injection safety (Alberta College of Pharmacy) 2018
- Guidelines for hand hygiene (Alberta College of Pharmacy) 2016
- Food and Drug Regulations (justice.gc.ca) C.R.C., c.870 (accessed Feb 7, 2023)
- Good manufacturing practices guide for drug products (GUI-0001) - Canada.ca (accessed Feb 7, 2023)
  - Product Monograph (accessed through RxTx or Health Canada)
  - Product Information per manufacturer's website

Reviewed and edited by: Anne-Marie Taylor, BSc Pharm, APA, BCGP, ISFL LTC Pharmacist, AHS  
Prepared with assistance by: William Truong, 4th Year PharmD Student

© 2023, Alberta Health Services, ISFL LTC Pharmacy - Calgary Zone



This work is licensed under a Creative Commons Attribution-Non-commercial Share Alike 4.0 International license. To view a copy of this licence, see <https://creativecommons.org/licenses/by-nc-sa/4.0/>. The licence does not apply to AHS trademarks, logos or content for which Alberta Health Services is not the copyright owner

This material is intended for general information only and is provided on an "as is", "where is" basis. Although reasonable efforts were made to confirm the accuracy of the information, Alberta Health Services does not make any representation or warranty, express, implied or statutory, as to the accuracy, reliability, completeness, applicability or fitness for a particular purpose of such information. This material is not a substitute for the advice of a qualified health professional. Alberta Health Services expressly disclaims all liability for the use of these materials, and for any claims, actions, demands or suits arising from such use.