



INSULIN STORAGE GUIDE

Wisconsin Department of Health Services / Division of Quality Assurance

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Insulin is available from drug manufacturers in two basic packages – vials and pens

General insulin storage requirements are as follows:

1. Never freeze; frozen insulin should be thrown away.
2. Never use insulin beyond the expiration date stamped on the vial, pen, or cartridge that is supplied from the drug manufacturer.
3. Never expose insulin to direct heat or light.
4. Inspect insulin prior to each use. Any insulin that has clumps or solid white particles should not be used. Insulin that is supposed to be clear should not have any cloudy appearance.
5. Check storage guidelines specific to the insulin formulation. This is usually in the product package insert.
6. Unopened, not-in-use insulin should be stored in a refrigerator at a temperature of 36-46° F.
7. Opened, in-use insulin should be stored at a room temperature below 86° F.
8. If receiving insulin through the mail, always confirm that the insulin is going to be stored under proper conditions.

Mixing insulin in vials or in syringes is a **generally** acceptable approach to customize insulin treatment and minimize injections. It is recommended that the same technique or procedure to mix and store these customized preparations be utilized. Some types of insulin, when mixed, may react with each other; therefore, it is recommended that all mixtures be stored for a consistent amount of time before using or that they be used immediately. ***When mixing insulin, it is extremely important that the rapid-acting insulin be drawn into the syringe FIRST, followed by the long acting. Before mixing insulin, a pharmacist or physician should be consulted.***

The following tables address specific expiration or beyond-use dating guidelines that apply to insulin products. The tables also include onset of action information. Every effort has been made to assure the accuracy of the attached information. This information is not intended to be used as a tool to prescribe medication or provide other clinical services. Please consult with a pharmacist for the most up-to-date information on insulin.

INSULIN STORAGE

Product Name	Unopened Refrigerated	Unopened Room Temperature	Seal Punctured, Refrigerated / Room Temperature
VIALS			
Fiasp®	Labeled expiration date	28 days	28 days
Humulin: R	Labeled expiration date	31 days	31 days
Humulin: N, 70-30	Labeled expiration date	31 days	31 days
Humulin: U-100, U-500	Labeled expiration date	31 days	31 days
Humalog: 50/50, 75/25	Labeled expiration date	28 days	28 days
Lantus® / Basaglar®	Labeled expiration date	28 days	28 days
Levemir®	Labeled expiration date	42 days	42 days
Lyuumjev®	Labeled expiration date	28 days	28 days
Myxredlin®	Labeled expiration date	30 days	30 days
Novolin: R, N, 70-30	Labeled expiration date	42 days	42 days (recommended to stay at room temp once used)
Novolog: Novolog, 70/30	Labeled expiration date	28 days	28 days
Semglee®	Labeled expiration date	28 days	28 days
Toujeo®	Labeled expiration date	42 days	42 days
PENS			In use, must be at room temperature
Fiasp®	Labeled expiration date	28 days	28 days
Humulin: N Prefilled pen	Labeled expiration date	14 days	14 days
Humulin: 70/30 Prefilled pen	Labeled expiration date	10 days	10 days
Humalog: 50/50 Prefilled Pen, KwikPen	Labeled expiration date	10 days	10 days
Humalog: Prefilled Pen, KwikPen	Labeled expiration date	28 days	28 days
Humalog: 75/25 Prefilled Pen, KwikPen	Labeled expiration date	10 days	10 days
Lyuumjev®	Labeled expiration date	28 days	Do not refrigerate

Novolog	Labeled expiration date	28 days	28 days
Novolog: 70/30	Labeled expiration date	14 days	14 days
Levemir®	Labeled expiration date	42 days	42 days
Lantus®	Labeled expiration date	28 days	28 days
Semglee®	Labeled expiration date	28 days	28 days
Soliqua®	Labeled expiration date	28 days	Do not refrigerate
Tresiba®	Labeled expiration date	56 days	56 days
Toujeo® SoloStar®	Labeled expiration date	28 days	28 days
Xultophy®	Labeled expiration date	21 days	21 days

INSULIN CHARACTERISTICS

Brand	Action	Onset	Peak	Duration	Appearance	Comments
Apidra	Rapid	20 min.	30-60 min.	3-5 hrs.	Clear	15 min. before or within 20 minutes after meals
Humalog	Rapid	15-30 min.	30-90 min.	3-5 hrs.	Clear	15 min. before or immediately after meals
Humalog: 75/25 Mix	Mixed	15-30 min.	1-6.5 hrs.	Up to 24 hrs.	Cloudy	Within 15 min. of meals
Humalog: 50/50 Mix		10-15 min.	Varies	10-16 hrs.	Cloudy	Within 15 min. before meals
Humulin: L	Intermediate	1-4 hrs.	4-14 hrs.	12-24 hrs.	Cloudy	30-60 min. before meal or at bed time
Humulin: N	Intermediate	1-4 hrs.	4-14 hrs.	10-24 hrs.	Cloudy	
Humulin: R	Short	0.5-1 hr.	2.5-5 hrs.	8-12 hrs.	Clear	30-60 min. before a meal.
Humulin: U	Long	4-6 hrs.	8-20 hrs.	18-36 hrs.	Cloudy	30-60 min. before a meal or at
Humulin: 70/30	Mixed	0.5-1 hr.	1.5-16 hrs.	10-24 hrs.	Cloudy	30 min. before a meal
Humulin: 50/50	Mixed	0.5-1 hr.	2.5-5 hrs.	10-24 hrs.	Cloudy	30 min. before a meal
Lantus	Long	1.5 hrs.	Constant	24 hrs.	Clear	
Levemir	Long	N/A	6-8 hrs.	12-24 hrs.	Clear	

Novolin: N	Intermediate	1-4 hrs.	4-14 hrs.	10-24 hrs.	Cloudy	
Novolin: R	Short	0.5-1 hr.	2.5-5 hrs.	8-12 hrs.	Clear	30-60 min. before a meal.
Novolin: 70/30	Mixed	0.5-1 hr.	1.5-16 hrs.	10-24 hrs.	Cloudy	30 min. before a meal
Novolog	Rapid	15 min.	1-2 hrs.	3-5 hrs.	Clear	5-10 min. before a meal
Novolog: 70/30	Mixed		1-4 hrs.	15-24 hrs.	Clear	Within 15 min. of meals
Afrezza	Rapid	10-20 min.	12-15 min.	3 hrs.	N/A, Inhaled Powder	At beginning of each meal
Toujeo	Ultra Long	6 hrs.	Constant	36 hrs.	Clear	
Tresiba	Long Acting	N/A	Constant	24 hrs.	Clear/ colorless	