

# Insulin specific properties - Basal insulin

Agent (100 units/mL unless otherwise specified)	Onset <sup>1</sup>	Peak <sup>1</sup>	Duration <sup>1</sup>	Comments	Coverage (ODB <sup>28</sup> , NIHB <sup>29</sup> )	Dosage forms <sup>28</sup>	Drug cost for dosage forms <sup>30</sup>	Drug cost for usual dose* (for 100 days supply)	
								50 units/day (basal alone)	25 units/day (basal + bolus; cost is for the basal component)
<b>Intermediate-acting</b>									
NPH (Humulin® N)	1-2h	5-8h	14-18h	<ul style="list-style-type: none"> <li>More erratic absorption vs. long-acting analogues</li> <li>If a patient is dosed bid, the need for a lunch dose of prandial (bolus) insulin may be delayed<sup>11</sup></li> <li>Max units/dose:** 60 for prefilled and reusable pens<sup>11</sup></li> </ul>	ODB ✓ NIHB ✓	5x3mL prefilled pens	\$71	\$185	\$127
(Novolin®ge)						5x3mL cartridges	\$62	\$167	\$114
						10mL vial	\$36	\$143	\$89
						5x3mL cartridges	\$60	\$167	\$114
						10mL vial	\$35	\$143	\$89
†NPH pork (Hypurin®)	1-3h	6-12h	24-48h	<ul style="list-style-type: none"> <li>Not often used in practice due to a lack of coverage, cost and inconvenience with vial/syringes</li> </ul>	ODB × NIHB ×	10mL vial	\$125	\$584	\$355
<b>Long-acting</b>									
Degludec (Tresiba®)	1h	No peak	>42h	<ul style="list-style-type: none"> <li>Duration useful for shift workers<sup>1</sup></li> <li>Can increase the dose by increments of 1 unit</li> <li>Max units/dose:** 80 for prefilled pen<sup>31</sup></li> </ul>	ODB ✓ NIHB ✓	5x3mL prefilled pens	\$129	\$370	\$250
Degludec 200 units/mL (Tresiba®)	1h	No peak	>42h	<ul style="list-style-type: none"> <li>Duration useful for shift workers<sup>1</sup></li> <li>200 units/mL can be started if larger doses are required</li> <li>Can increase the dose by increments of 2 units</li> <li>Bioequivalent to degludec 100 units/mL<sup>31</sup></li> <li>Max units/dose:** 160 for prefilled pen<sup>31</sup></li> </ul>	ODB ✓ NIHB ✓	3x3mL prefilled pens	\$153	\$442	\$298
Detemir (Levemir®)	1.5h	Almost peakless	6-24h	<ul style="list-style-type: none"> <li>Duration of action may be shorter at lower doses and may require bid dosing (cut-off varies by patient)<sup>1</sup></li> <li>If a patient is experiencing nocturnal hypoglycemia with a bedtime dose, lower the dose, inject the dose in the morning or split daily dose to bid</li> <li>Max units/dose:** 80 for prefilled pen, 60 for reusable pen<sup>11</sup></li> </ul>	ODB ✓ NIHB ✓	5x3mL prefilled pens  5x3mL cartridges	\$129  \$128	\$370  \$367	\$250  \$247
Glargine (Basaglar™)	1.5h	Almost peakless	24h	<ul style="list-style-type: none"> <li>Acidic formulation may cause irritation<sup>32</sup></li> <li>Basaglar™ is biosimilar to Lantus® (Health Canada: no clinically meaningful differences in pharmacokinetics, pharmacodynamics, clinical efficacy, safety or immunogenicity)<sup>33</sup></li> <li>If a patient is experiencing nocturnal hypoglycemia with a bedtime dose, lower the dose or inject the dose in the morning</li> <li>Max units/dose:** 80 for prefilled pens, 60 for Basaglar™ reusable pen, 80 for Lantus® reusable pen<sup>11</sup></li> </ul>	ODB ✓ NIHB ✓	5x3mL prefilled pens	\$84	\$234	\$159
(Lantus®)						5x3mL cartridges	\$84	\$234	\$159
						5x3mL prefilled pens	\$109	\$310	\$209
						5x3mL cartridges	\$109	\$310	\$209
						10mL vial	\$75	\$209	\$142
Glargine 300 units/mL (Toujeo®)	1.5h	No peak	Up to 36h	<ul style="list-style-type: none"> <li>Recommend for patients who require &gt;20 units of basal insulin/day, and counsel on change of concentration</li> <li>NOT bioequivalent to glargine 100 units/mL (longer duration and delayed peak; not interchangeable without a dose adjustment)<sup>34</sup></li> <li>If a patient is experiencing nocturnal hypoglycemia with a bedtime dose, lower the dose or inject the dose in the morning</li> <li>Max units/dose:** 80 for 1.5mL prefilled pen, 160 for 3mL prefilled pen<sup>11</sup></li> </ul>	ODB ✓ NIHB ✓ (1.5mL) × (3mL)	3x1.5mL or 5x1.5mL prefilled pen  3x3mL or 2x3mL prefilled pen	\$37  \$66	\$323  \$351	\$180  \$180

\* Prices reflect the cost to the consumer and include a markup and dispensing fee (the cost per dosage form and the 100-day cost both include one dispensing fee and reflect the usual pharmacy practice of dispensing a full box or vial; e.g., 5x3mL pens). The cost for a usual dose assumes a 100 kg patient. The price for vials does not include the cost of syringes.

\*\* This reflects the maximum amount given for 1 injection, not the maximum amount of insulin that is required. Multiple injections may be required to achieve blood glucose targets.

† = not on Ontario drug formulary, ✓ = general benefit, × = not a benefit, **bid** = twice daily, **h** = hour, **kg** = kilogram, **LU** = limited use, **max** = maximum, **µg** = microgram, **mg** = milligram, **mL** = milliliter, **NIHB** = non-insured health benefits for First Nations and Inuit, **NPH** = neutral protamine Hagedorn, **ODB** = Ontario Drug Benefit, **SC** = subcutaneous