

Bradford District and Craven Insulin Formulary for the management of Type 1 diabetes

Classification	Formulary Choice	Insulin	Recommendations	Origin	Administration Time	Onset	Peak	Duration
Rapid acting / Prandial insulin	First choices	NovoRapid (aspart) 10ml vial £14.08, 3ml pens £30.60 3ml cart £28.31	<ul style="list-style-type: none"> For use as part of BBR Or in Insulin pump therapy (in secondary care) 	Analogue	15 mins before food	15 mins	1 – 3 hours	3-5 hours
		Humalog (lispro) 10vial £16.61, 3ml pens £29.46 3ml cart £28.31	<ul style="list-style-type: none"> For use as part of BBR Or in Insulin pump therapy (in secondary care) 	Analogue	15 mins before food	15 mins	30 – 70 mins	2-5 hours
	Alternative	Humalog U200 (concentrated lispro) 3ml pens £58.92	<ul style="list-style-type: none"> For those on large rapid acting insulin doses Useful for alternative site protection for patients with lipohypertrophy 	Analogue	15 mins before food	15 mins	30 – 70 mins	2-5 hours
Basal insulin (not food dependant)	First choices	Semglee (biosimilar glargine) 3ml pens £37.77	<ul style="list-style-type: none"> Cost effective basal analogue with similar HBA1c reductions and safety profile of Lantus Pre-filled pen only – prescribe by brand name only 	Analogue	Once daily at the same time; not food dependant	1-2 hours	No peak	24 hours
		Toujeo U300 (concentrated glargine) 1.5ml pens £32.14 3ml pens £64.27	<ul style="list-style-type: none"> Reduction in nocturnal hypos Flexibility with timing Useful for high doses as reduction volume protects sites and aids timely absorption As part of BBR regime 	Analogue	Once daily, can be given up 3 hours before or after usual time	Over 6 hours	No peak	24 - 36 hours
		Levemir (detemir) 3ml pens and 3ml cart both £42.00	<ul style="list-style-type: none"> Twice daily administration Enables flexibility with dosing for activity, work and/or alcohol Used in DAFNE As part of BBR regime 	Analogue	On waking & on going to bed (min 7 hours between doses)	30 – 60 mins	No peak	18 – 24 hours
	Alternative (secondary/GPSI/DSN care only)	Tresiba U100 or U200 100u pens and cart Both £46.60 200u pens £55.92	<ul style="list-style-type: none"> Most expensive basal insulin For use with patients at high risk of or recurrent DKA Flexible timing of injection, ensure at least 8 hrs apart Helpful if hypoglycaemia is an issue U200 if high doses are needed 	Analogue	Once daily at variable times but must be at least 8 hours apart	30 – 90 mins	No peak	Over 42 hours
Biphasic / mixed insulin	First choice	Humalog mix 25 Humalog mix 50 10ml vial £16.61, 3ml cart £29.46 3ml pens £30.98,	<ul style="list-style-type: none"> Alternative if BBR regime not possible or refused Usually BD before breakfast and evening meal 	Analogue	15 mins before meals	15 mins	30 – 70 mins	Up to 24 hours
	Second choice	NovoMix 30 3ml cart £28.79 3ml pens £29.89	<ul style="list-style-type: none"> To provide flexibility 	Analogue	0-10 mins before meals	10-20 mins	1 – 4 hours	Up to 24 hours

Bradford District and Craven Insulin Formulary for the management of Type 2 diabetes

Classification of Insulin	Formulary Choice	Insulin	Recommendations	Origin	Administration Time	Onset	Peak	Duration
Basal Insulin		Insulin initiated as once daily basal insulin in line with NICE NG28 recommendations. Timing based on Blood glucose profile (elevated fasting readings commence pre-evening meal, elevated daytime readings commence before breakfast)						
Basal insulin (not food dependant)	First Choice	Humulin I 10ml vial £15.68, 3ml pens 21.70 3ml cart £19.08	<ul style="list-style-type: none"> Cost effective 	Human NPH	Once daily before evening meal or breakfast	30-60 mins	6-7 hours	22 hours
	Alternative for Impaired dexterity	Insulatard InnoLet 3ml pens £21.70	<ul style="list-style-type: none"> For patients requiring the InnoLet device for dexterity or visual impairment where this would improve 	Human	Once daily	90 mins	4-12 hours	24 hours
	Second choice	Semglee (biosimilar glargine) 3ml pens £37.77	<ul style="list-style-type: none"> If twice daily Isophane required Cost effective basal analogue with similar HBA1c reductions and safety profile of Lantus Must be prescribed by brand name- Pre-filled pen only If Basal bolus regime required 	Analogue	Once daily at the same time; not food dependant	1-2 hours	No peak	24 hours
	Third choice	Toujeo U300 (concentrated glargine) 1.5ml pens £32.14 3ml pens £64.27	<ul style="list-style-type: none"> When third party delivery required Reduction in nocturnal hypos Flexibility with timing e.g. shift worker Useful for high doses as reduction volume protects sites and aids timely absorption Must be prescribed by brand name- Pre-filled pen only 	Analogue	Once daily, can be given up 3hrs before or after usual time	Over 6 hours	No peak	24 - 36 hours
Biphasic / mixed insulin		If Insulin commence with HbA1c >75mmols/mol or Basal insulin has insufficiently managed blood glucose profile						
	First choice	Humulin M3 10ml vial £15.68, 3ml pens 21.70 3ml cart £19.08	<ul style="list-style-type: none"> Cost effective 	Human	30-45 minutes before meals	30-60 mins	2-10 hours	22 hours
	Second choice	HumalogMix 25 3ml pens £30.98 3ml cart £29.46	<ul style="list-style-type: none"> If hypoglycaemia is problematic Where timing of human insulin pre-meals is problematic 	Analogue	15 mins before meals	15 mins	30-70 mins	Up to 24 hours
		HumalogMix 50 3ml pens £30.98 3ml cart £29.46	<ul style="list-style-type: none"> If three times daily insulin required due to late evening meal or high CHO load meals If elevated pre-lunch or pre-bed blood glucose levels and higher ration of soluble insulin required 	Analogue	15 mins before meals	15 mins	30-70 mins	Up to 24 hours

Rapid Acting Analogue		If Basal bolus regime indicated due to unpredictable eating pattern						
	First choice	Humalog (lispro) 10vial £16.61 3ml pens £29.46 3ml cart £28.31	<ul style="list-style-type: none"> For use as part of BBR 	Analogue	15 mins before food	15 mins	30 – 70 mins	2-5 hours
	Alternative	Humalog U200 (concentrated lispro) 3ml pens £58.92	<ul style="list-style-type: none"> For those on large rapid acting insulin doses Useful for alternative site protection for patients with Lipohypertrophy 	Analogue	15 mins before food	15 mins	30 – 70 mins	2-5 hours

Notes:

- Choice of device should be considered as a primary factor in choosing the right insulin for the patient. Consider their personal choice, dexterity and vision etc. Review their use of the device regularly to ensure it meets their needs.

References:

- Summary of Product Characteristics – available at <https://www.medicines.org.uk/emc/>
- NG17 Type 1 diabetes in adults: diagnosis and management July 2016 <https://www.nice.org.uk/guidance/ng17>
- NG18 Diabetes (type 1 and type 2) in children and young people: diagnosis and management August 2015 <https://www.nice.org.uk/guidance/ng18>
- NG28 Type 2 diabetes in adults: management Dec 2015 <https://www.nice.org.uk/guidance/ng28>