

Rapid-Acting Insulin (Mealtime / Bolus)

Brand Name	Generic Name	Onset	Peak	Duration	Key Notes
Humalog	insulin lispro	15 min	1–2 hr	3–5 hr	Inject 0–15 min before meals
Novolog	insulin aspart	10–20 min	1–3 hr	3–5 hr	Inject 0–10 min before meals
Apidra	insulin glulisine	10–20 min	1–2 hr	3–5 hr	Inject within 15 min of meals
Fiasp	faster insulin aspart	2–5 min	45–90 min	3–5 hr	Inject at mealtime or just after; fastest injectable
Lyumjev	insulin lispro-aabc	2–5 min	45–90 min	3–5 hr	Ultra-rapid — inject at mealtime
Afrezza	insulin human (inhaled)	12–15 min	45–60 min	2–3 hr	Inhaled — not injected. Shortest duration. Contraindicated in COPD/asthma

Long-Acting Insulin (Basal)

Brand Name	Generic Name	Onset	Peak	Duration	Key Notes
Lantus	insulin glargine U-100	2–4 hr	Flat (no peak)	~24 hr	Once daily; inject same time each day
Basaglar	insulin glargine U-100	2–4 hr	Flat	~24 hr	Biosimilar to Lantus
Toujeo	insulin glargine U-300	6 hr	Flat	~36 hr	3x concentration — less volume; once daily
Levemir	insulin detemir	1–3 hr	Mild peak	~20 hr	May need twice daily in some patients
Tresiba	insulin degludec	1 hr	Flat	~42 hr	Ultra-long; flexible timing within 8-hr window
Semglee	insulin glargine (biosimilar)	2–4 hr	Flat	~24 hr	Interchangeable biosimilar to Lantus

Intermediate & Premixed Insulin

Brand Name	Generic Name	Onset	Peak	Duration	Key Notes
NPH (Humulin N, Novolin N)	insulin isophane	1–3 hr	4–8 hr	12–18 hr	Has a peak — hypoglycemia risk. Refrigerate.
70/30 (Humulin 70/30)	70% NPH / 30% regular	30 min	Dual	12–16 hr	Premixed; less flexibility for dosing
Ryzodeg 70/30	70% degludec / 30% aspart	Rapid	Aspart peak	~24 hr	Once or twice daily premix with Tresiba base

Storage & Practical Tips

Unopened insulin: Refrigerate at 36–46°F. Never freeze.

Open / in-use vials or pens: Most can be kept at room temperature (up to 77°F) for 28–56 days depending on product — check the package insert. Do not expose to direct sunlight or heat.

Afrezza cartridges: Store unopened strips in fridge. Open strips at room temperature, use within 3 days.

Inspect before injecting: Rapid-acting insulins should be clear. NPH and premixed insulins are cloudy — gently roll, do not shake. Discard if you see clumps, color changes, or particles.

Rotate injection sites: Use the same region but move within it. Rotating within your abdomen, thighs, or upper arms prevents lipohypertrophy (lumpy tissue that absorbs insulin erratically).

Needle length: 4mm pen needles are appropriate for most adults. Discuss with your provider.

This handout is for educational purposes only and does not replace individualized medical advice from your provider. Endocrine & Diabetes Plus Clinic of Houston • 832-968-7003 • endocrine.plus • More at endocrine.plus/education/insulin-dose-tools.html