MEDICATIONS

DRUG CLASS	HOW IT PRIMARILY WORKS	GENERIC NAME	BRAND NAME	COST*
TYPE 2 ORAL MEDICATIONS				
Biguanides (generic available)	Lowers the amount of glucose produced by the liver	Metformin	Available as generic only	Low
		Metformin extended release	Glumetza	Moderate to high
Sulfonylureas** (generic available)	Helps beta cells in the pancreas release more insulin	Glimepiride	Amaryl	Low
		Glipizide	Glucotrol	
		Glipizide extended release	Glucotrol XL	
		Glyburide	Micronase, Glynase PresTab, Diabeta	
Meglitinides (generic available)		Nateglinide	Starlix	Moderate
		Repaglinide	Prandin	
TZDs** (generic available)	Helps insulin work better in muscle and fat cells. Lowers glucose production by the liver.	Pioglitazone	Actos	Low
Alpha-glucosidase inhibitors (generic available)	Blocks the breakdown of starches in the intestines	Acarbose	Precose	Moderate
		Miglitol	Glyset	
DPP-4 inhibitors (generic available)	Slows the inactivation of GLP-1, a compound in the body that lowers blood glucose levels	Alogliptin	Nesina	High
		Linagliptin	Tradjenta	
		Saxagliptin	Onglyza	
		Sitagliptin	Januvia	
Bile acid sequestrants (generic available)	Lowers LDL cholesterol and A1C levels	Colesevelam HCI	Welchol	High
Dopamine-2 agonists (no generic available)	Helps lower blood glucose levels after a meal	Bromocriptine quick release^~	Cycloset	High

DRUG CLASS	HOW IT PRIMARILY WORKS	GENERIC NAME	BRAND NAME	COST*
GLP-1 receptor agonists (no generic available)	**Helps release insulin when blood glucose rises at mealtime, slows the absorption of mealtime glucose, and lowers the amount of glucose produced by the liver**	Semaglutide	Rybelsus **NEW**	High
SGLT–2 inhibitors (no generic available)	**Blocks glucose from being reabsorbed by the kidneys. Excess glucose is released in the urine, lowering blood glucose.**	Canagliflozin	Invokana	High
		Dapagliflozin	Farxiga	
		Empagliflozin	Jardiance	
		Ertugliflozin	Steglatro	

TYPE 2 INJECTED MEDICATIONS

DRUG CLASS	HOW IT PRIMARILY WORKS	GENERIC NAME	BRAND NAME	COST*
Amylin (no generic available)	**Slows food moving through the stomach, blunting the increase in blood glucose after meals. Also indicated for type 1 diabetes.**	Pramlintide acetate	Symlin	High
GLP–1 receptor agonists (no generic available)	**Helps release insulin when blood glucose rises at mealtime, slows the absorption of mealtime glucose, and lowers the amount of glucose produced by the liver**	Dulaglutide	Trulicity	High
		Exenatide~	Byetta	
		Exenatide extended release~	Bydureon, Bydureon BCise	
		Liraglutide~	Victoza	
		Lixisenatide~	Adlyxin	
		Semaglutide	Ozempic	
Insulin + GLP-1 receptor agonists (no generic available)	**Combines long-acting insulin with a GLP-1 receptor agonist. The insulin helps glucose enter the cells to be used as fuel. The GLP-1 receptor agonist helps release insulin when blood glucose is high and lower the amount of glucose produced by the liver.**	Insulin glargine/ lixisenatide~	Soliqua 100/33	High
		Insulin degludec/ liraglutide^	Xultophy 100/3.6	

KEY

*Cost is based on the lowest-priced drug in its class. Low-priced drugs cost less than $1 per day. Moderate-priced drugs cost between $1 and $2 per day. High-priced drugs cost more than $2 per day. There is much variation in cost, even within drug classes.

**The sulfonylureas chlorpropamide (Diabinese) and tolazamide and the TZD rosiglitazone (Avandia) are available but rarely prescribed.

^This drug is not recommended for use in conjunction with basal (background) insulin therapy. In the case of Xultophy 100/3.6, this is because the drug already contains long-acting insulin.

~This drug has not been studied in combination with mealtime insulin therapy.

Additional Benefits: Medications in the SGLT-2 inhibitor or GLP-1 receptor agonist classes may offer heart and kidney benefits for people with cardiovascular disease. Talk to your doctor about your options and whether switching to one of these drugs may help you.

Side Effects: Each medication has its own side effects; read labels carefully to be sure you know what they are.

Oral Combination Therapy: Because the drugs listed in this chart act in different ways to lower blood glucose levels, providers will often prescribe multiple drugs to a patient, such as both a biguanide and a sulfonylurea. Several combinations of oral drugs can be prescribed together in a single pill, such as sitagliptin and metformin in the DPP-4 inhibitor Janumet, ertugliflozin and sitagliptin in the SGLT-2 inhibitor Steglujan, and ertugliflozin and metformin in the SGLT-2 inhibitor Segluromet.

GENERIC NAME	BRAND NAME	MANUFACTURER	FORM	DELIVERY	ONSET	PEAK	DURATION
RAPID-ACTING INSULIN							
Insulin aspart	**Fiasp**	Novo Nordisk	Analog	Syringe, pen, or pump	15 to 20 min.	50 to 70 min.	About 5 hours
Insulin aspart∞	**NovoLog**	Novo Nordisk	Analog	Syringe, pen, or pump	10 to 20 min.	40 to 50 min.	3 to 5 hours
Insulin glulisine	**Apidra**	Sanofi	Analog	Syringe, pen, or pump	10 to 20 min.	30 to 90 min.	2 to 4 hours
Insulin human (inhaled powder)	**Afrezza**	MannKind	Human	Inhaler with 4-, 8-, and 12-unit cartridges	12 min.	35 to 55 min.	1.5 to 4.5 hours
Insulin lispro∞ (also available in U-200*)	**Humalog**	Eli Lilly and Co.	Analog	Syringe, pen, or pump	10 to 20 min.	30 to 90 min.	3 to 5 hours
Insulin lispro	**Admelog**	Sanofi	Analog	Syringe, pen, or pump	15 to 30 min.	2 hours	Up to 7 hours
SHORT-ACTING INSULIN							
Regular	**Humulin R***	Eli Lilly and Co.	Human	Syringe	30 to 60 min.	2 to 4 hours	5 to 8 hours
Regular	**Novolin R, ReliOn Novolin R** (Walmart)	Novo Nordisk	Human	Syringe or pen	30 min.	1.3 to 2 hours	Up to 8 hours
INTERMEDIATE-ACTING INSULIN							
NPH	**Humulin N**	Eli Lilly and Co.	Human	Syringe or pen	1 to 3 hours	8 hours	Up to 24 hours
NPH	**Novolin N, ReliOn Novolin N** (Walmart)	Novo Nordisk	Human	Syringe or pen	1.5 hours	4 to 12 hours	Up to 24 hours
LONG-ACTING INSULIN							
Insulin detemir	**Levemir**	Novo Nordisk	Analog	Syringe or pen	1.6 hours	No peak	Up to 24 hours
Insulin glargine	**Basaglar**	Eli Lilly and Co.	Analog	Pen	1 hour	No peak	24 hours
Insulin glargine	**Lantus**	Sanofi	Analog	Syringe or pen	1 hour	No peak	24 hours
Regular U-500	**Humulin R U-500***	Eli Lilly and Co.	Human	Syringe or pen	30 min.	4 to 8 hours	Up to 24 hours

GENERIC NAME	BRAND NAME	MANUFACTURER	FORM	DELIVERY	ONSET	PEAK	DURATION
ULTRA-LONG-ACTING INSULIN							
Insulin degludec (also available in U-200*)	**Tresiba^**	Novo Nordisk	Analog	Syringe (U-100 only) or pen (U-100 and U-200)	1 hour	No peak	At least 42 hours
Insulin glargine (U-300*)	**Toujeo**	Sanofi	Analog	Pen	6 hours	No peak	24 hours
INSULIN MIXTURES							
50% lispro protamine (NPL)/ 50% insulin lispro	**Humalog Mix 50/50**	Eli Lilly and Co.	Analog	Syringe or pen	10 to 15 min.	Varies	16 to 22 hours
75% lispro protamine (NPL)/ 25% insulin lispro	**Humalog Mix 75/25**	Eli Lilly and Co.	Analog	Syringe or pen	10 to 15 min.	Varies	16 to 22 hours
70% aspart protamine/30% insulin aspart∞	**NovoLog Mix 70/30***	Novo Nordisk	Analog	Syringe or pen	10 to 20 min.	2.4 hours	Up to 24 hours
70% NPH/ 30% Regular	**Humulin 70/30**	Eli Lilly and Co.	Human	Syringe or pen	30 to 60 min.	Varies	12 to 16 hours
70% NPH/ 30% Regular	**Novolin 70/30*, ReliOn Novolin 70/30** (Walmart)	Novo Nordisk	Human	Syringe	30 min.	4.2 hours	Up to 24 hours

KEY

*U-100, U-200, U-300, and U-500 are different concentrations of insulin. Note the difference between Humulin R and Humulin R U-500. Note the difference between NovoLog Mix 70/30 (70% aspart protamine/30% insulin aspart) and Novolin 70/30 (70% NPH/30% Regular).

∞Lower-priced versions of certain insulins are available. Follow-on medications are "copies" of brand-name drugs already on the market. Insulin Aspart FOB and Insulin Aspart Mix 70/30 FOB are follow-on brand versions of NovoLog and Novolog Mix 70/30. An authorized generic is a company's generic version of a drug it already has on the market. Insulin lispro injection U-100 is the authorized generic version of Humalog. These drugs can cost about half the price of the brand-name drug.

^Tresiba's onset of action hasn't been resolved, but it generally starts working in 1 hour.