CareSource | **Type 2 Diabetes** Reference Guide

This quick reference guide provides tips regarding adult Type 2 Diabetes diagnosis and pharmacotherapy information.

Screening, Diagnosis of Type 2 Diabetes and Recommended Plan of Action

STEP 1 - Assess → **STEP 2 -** Initiate Plan of Acton → **STEP 3 -** Follow-Up Assessement

Screening and Diagnostic Tests for Type 2 Diabetes

Criteria for screening for Type 2 Diabetes or Prediabetes in asymptomatic adults.

1.	Adults, overweight or obese (body mass index > 25 kg/m2 or > 23 kg/m2- in Asian America individuals), who have one or more of the following risk factors: • 1st degree relative with diabetes • High-risk race/ethnicity (e.g., African American, Latino, Native American, Asian American, Pacific Islander) • History of Cardiovascular Disease (CVD) • High-density lipoprotein cholesterol level <35 mg/dL (0.90 mmol/L and/or a triglyceride level > 250 mg/dL (2.82 mmol/L) • Hypertension (HTN) (>130/80 mmHG or on therapy for HTN) • Physical inactivity • Individuals with Polycystic Ovary Syndrome (PCOS) • Other clinical conditions associated with insulin resistance (e.g., severe obesity, acanthosis nigricans)
2.	People with prediabetes (A1C > 5.7% [39 mmol/mol], IGT, or IFG) should be tested yearly.
3.	People who were diagnosed with Gestational Diabetes Mellitus (GDM) should have lifelong testing at least every three years.
4.	For all other people, testing should begin at age 35.
5.	If results are normal, testing should be repeated at a minimum of 3-year intervals, with consideration of more frequent testing depending on initial results and risk status.
6.	People with human immunodeficiency virus (HIV).

Type 2 Diabetes may be diagnosed based on hemoglobin A1C criteria or plasma glucose criteria (either the fasting plasma glucose (FPG) or the 2-hour plasma glucose (2-h PG) value after a 75-grams oral glucose tolerance test (OGTT).

Diagnostic Test	FPG		2-h PG during OGTT		A1C		Random PG w/symptoms
Results	FPG > 126 mg/dL (7.0 mmol/L)	**OR**	2-h PG > 200 mg/dL (11.1 mmol/L) during OGTT	**OR**	A1C > 6.5% (48 mmol/mol)	**OR**	Classic symptoms of hyperglycemia or hyperglycemic crisis, a Random PG > 200 mg/dl (11.1 mmol/L)

*Fasting is defined as no caloric intake for at least eight hours. § FPG is the preferred test for diagnosis, but IGF (impaired fasting glucose test) or IGT (impaired glucose tolerance) test is acceptable. In the absence of unequivocal hyperglycemia with acute metabolic decompensation, **one of these two** tests should be done on different days. ± Using a clinical laboratory (not a point-of-care) methodology standardization to the National Glycohemoglobin Standardization Program (NGSP). IGT: impaired glucose tolerance during oral glucose tolerance test (OGTT) using a glucose load.

Quick Reference to Some Commonly Prescribed Medications for Type 2 Diabetes

The following list is intended as a general reference only and should not serve as guidelines for prescribing medications for Type 2 Diabetes. Please refer to the manufacturer's product information sheet or the Physicians' Desk Reference (PDR) for any changes in dosage schedule or contraindications.

Dosing Considerations for Some Commonly Prescribed Medications for Type 2 Diabetes

Class	Medication	A1C lowering %	Cardiovascular Outcomes		Hypoglycemia	Clinical considerations and potential side effects
			ASCVD	Heart Failure		
Biguanide	**metformin (immediate (IR) or extended (ER) release)**	1 – 1.5	Possible benefit	*	No	• Gastrointestinal (GI) side effects, potential slight weight loss • Risk for B12 deficiency • Lactic acidosis (rare) • Monitor renal function more frequently & reduce dose or do not start if >30 to <45 estimated glomerular filtration rate.
Dipeptidyl Peptidase IV Inhibitors	**alogliptin**	0.5-1	Neutral	Potential risk	No	• Pancreatitis • Hypersensitivity reactions • Arthralgias • Bullous pemphigoid
Sulfonylureas (SU)	**glipizide glimepiride**	1-1.5	Possible harm	*	Yes	• Use with caution in persons at risk for hypoglycemia, especially in elderly or renal impairment • Potential weight gain • Hemolytic anemia may occur if Glucose-6-Phosphate Dehydrogenase deficiency
Thiazolidinediones (TZDs)	**pioglitazone**	1-1.5	Possible benefit	Increased risk	No	• Contraindicated in New York Heart Association Class 3 or 4 Heart Failure • Bone fractures in women • Edema, potential weight gain • Bladder cancer
Glucagon-like Peptide 1 Receptor Agonist	**Trulicity®**	1-1.5	Benefit	Neutral	No	• High Cost • Gastrointestinal (GI) side effects common, potential weight loss • Vision changes • Possible pancreatitis, gallbladder issues • Thyroid tumors, including cancer (Contraindicated with personal or family history of medullary thyroid carcinoma (MTC) or those with multiple endocrine neoplasia 2 (MEN-2)
	Rybelsus®		Neutral	Neutral		
Sodium-glucose Transport Protein 2 Inhibitor	**Jardiance®**	0.5-1 †	Benefit	Benefit	No	• High Cost • Genital mycotic infections • Urinary tract infections, volume depletion, potential weight loss • Ketoacidosis, rare in Type 2 Diabetes • Acute kidney injury • Fournier's Gangrene (rare reports) • Decreased effect in patients with renal impairment
	Steglatro®		*	* Some evidence of benefit but is not yet FDA approved.		

*No data available.

Class	Medication	Starting daily dose	Maximum daily dose	Action if eGFR (mL/min/1.73m²)			
				> 45 to < 60	> 30 to < 45	> 15 to < 30	<15 or ESRD
Biguanide	metformin metformin ER	500 mg BID (IR) or 850 mg daily (IR) or 500 to 1,000 mg daily (ER)	2,500 mg (IR) 2,000 mg (ER)	√	Generally, not recommended. If taking evaluate risk/benefit and reduce dose by 50% with max. 1,000 mg/day* ¤	X	X
DPP-4 Inhibitors	alogliptin	25 mg	25 mg	12.5 mg/day ¤	12.5 mg/day ¤	6.25 mg/day ¤	6.25 mg/day ¤
SUs	glipizide	2.5 mg to 5 mg; 2.5 mg in elderly	40 mg (IR)** 20 mg (XR)	Glipizide is the preferred SU in patients with chronic kidney disease. No dose adjustment is needed if eGFR ≥ 50. For eGFR 10 to < 50, may cautiously titrate to max of 20 mg/day. Avoid use if possible if eGFR<10. If necessary, titrate slowly and up to max of 20 mg/day.			
	glimepiride	1-2 mg 1 mg in elderly	8 mg	1 mg/day ¤	¤	¤	X
TZDs	pioglitazone	15 – 30 mg§	45 mg	√	√	√	√
GLP-1 Receptor Agonist	Trulicity®	0.75 mg weekly	4.5 mg weekly	√	√	√	√
	Rybelsus®	3 mg	14 mg	√	√	√	√
SGLT-2 Inhibitor	Jardiance®	10 mg	25 mg	√	√	Data insufficent for dosing recommendation. Contraindicated for patients undergoing dialysis.	
	Steglatro®	5 mg	15 mg	√	X	X	X

Purple (√): no adjustment needed. **Yellow (¤):** dose reduction, limited data or use with caution. **Red (X):** avoid or contraindicated. §: Check liver function tests before starting. (*) Monitor renal function more frequently. (**)Evidence shows that the maximum effective dose is 20 mg and increasing to 40 mg has not shown to improve glycemic control.

Combining Some Common Drug Classes to Treat Type 2 Diabetes

Class	Biguanide	DPP-4 Inhibitors	SUs	TZDs	Insulins	GLP-1 Receptor Agonists	SGLT-2 Inhibitors
Biguanide		√	√	√	√	√	√
DPP-4 Inhibitors	√		√	√	√	X	√
SUs	√	√		√	!	√	√
TZDs	√	√	√		!	√	√
Insulins	√	√	!	!		√	√
GLP-1 Receptor Agonists	√	X	√	√	√		√
SGLT-2 Inhibitors	√	√	√	√	√	√	

Purple (√): Safe to use together. **Red (!):** Use with caution. Sulfonylureas (SU) + insulin has an increased rate of hypoglycemia, stop SU when prandial insulin used. TZD (pioglitazone) + insulin can cause edema at high insulin doses. **Red (X):** avoid combining.

CareSource Preferred Prescription Drug Formulary: www.caresource.com/oh/providers/tools-resources/drug-formulary/dsnp/

Sources: ElSayed, N., Aleppo, G., Aroda, V. R., Bannuru, R. R., Brown, F. M., Bruemmer, D., Collins, B. S., Hilliard, M. E., Isaacs, D., Johnson, E. L., Kahan, S., Khunti, K., Leon, J., Lyons, S. K., Perry, M. L., Prahalad, P., Pratley, R. E., Seley, J. J., Stanton, R. C., & Gabbay, R. (2022). Standards of Care in Diabetes—2023. Diabetes Care, 46(Supplement_1). https://diabetesjournals.org/care/issue/46/Supplement_1

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