

Cautions related to renal impairment for glucose-lowering therapies for type 2 diabetes.

Class	Compound (s)	Renal impairment category (eGFR values in mL/min/1.73 m ²)			
		Mild (60-89)	Moderate (30-59)	Severe (15-29)	Kidney failure (<15)
Biguanides	Metformin	No dose adjustment	Reduce dose and use with caution when eGFR <45	Avoid use	
Sulphonylureas	Gliclazide	No dose adjustment		Avoid use	
	Glimepiride				
	Glipizide				
	Tolbutamide	Low initial dose		Avoid use	
Meglitinides	Nateglinide	No dose adjustment		May need dose adjustment if CrCl is 15-50 mL/min	
	Repaglinide	Titrate dose with caution			
Alpha-glucosidase inhibitors	Acarbose	No dose adjustment		Avoid if CrCl is <25mL/min	
Thiazolidinediones	Pioglitazone	No dose adjustment			Avoid in dialysis patients
Dipeptidyl peptidase-4 inhibitors	Alogliptin	No dose adjustment	Lower dose if CrCl is <50mL/min.		
	Saxagliptin				
	Sitagliptin				
	Vildagliptin				
	Linagliptin	No dose adjustment, can be used in haemodialysis and peritoneal dialysis patients			
Sodium-glucose co-transporter 2 inhibitors	Dapagliflozin	No dose adjustment	Avoid use		
	Canagliflozin	No dose adjustment	Do not initiate; use lower dose when eGFR is 45-59; discontinue if eGFR is <45	Avoid use	
	Empagliflozin				
Glucagon-like peptide receptor-1 agonists	Dulaglutide	No dose adjustment		Avoid use	
	Exenatide (twice daily)	No dose adjustment	Escalate dose cautiously	Avoid use	
	Exenatide (once weekly)	No dose adjustment	Avoid use if CrCl is <50 mL/min		
	Liraglutide	No dose adjustment		Avoid use if CrCl is <30mL/min	
	Lixisenatide	No dose adjustment	Use caution if CrCl is 30-50mL/min	Avoid use if CrCl is <30mL/min	
Insulins	Intensify glucose monitoring, adjust dose to patient's needs.				