For Healthcare Professionals:

PRESCRIBING GUIDANCE IN PEOPLE WITH RENAL IMPAIRMENT

Original document was kindly provided through a PCDS and Trend Diabetes collaboration

METFORMIN, SULPHONYLUREAS AND GLINIDES

Drug	Mild renal impairment; CKD stage 2; eGFR 89–60 mL/min/1.73m²	Moderate renal impairment; CKD stage 3; eGFR 59–30 mL/min/1.73m²	Severe renal impairment; CKD stage 4–5; eGFR <30 mL/min/1.73m²
Metformin	• Consider dose reduction in relation to declining renal function	• Review factors that may increase the risk of lactic acidosis before considering initiation	• Avoid use
Gliclazide	• No dose adjustment	• No dose adjustment	• Avoid use
Glimepiride	• No dose adjustment	• No dose adjustment	• Avoid use
Glipizide	• Use conservative dose	• Use conservative dose	• Avoid use
Tolbutamide	• Start on lower dose with careful monitoring of BG levels	• Start on lower dose with careful monitoring of BG levels	• Avoid use
Nateglinide	• No dose adjustment	• May need to adjust dose if CrCl is 15–50 mL/ min	• May need to adjust dose if CrCl is 15–50 mL/min
Repaglinide	• Titrate dose with caution	• Titrate dose with caution	• Titrate dose with caution

- BG=blood glucose; CKD=chronic kidney disease; eGFR=estimated glomerular filtration rate; SCr=serum creatinine.
- Information taken from relevant drug summaries of product characteristics, available at: www.medicines.org.uk (accessed 17.10.19)

PIOGLITAZONE AND THE DPP-4 INHIBITORS

Drug	Mild renal impairment; CKD stage 2; eGFR 89–60 mL/min/1.73m²	Moderate renal impairment; CKD stage 3; eGFR 59–30 mL/min/1.73m²	Severe renal impairment; CKD stage 4–5; eGFR <30 mL/min/1.73m²
Pioglitazone	• No dose adjustment	• No dose adjustment	• No dose adjustment when CrCl >4 mL/min • Avoid use in dialysis patients
Alogliptin	• No dose adjustment if CrCl >50 mL/min	• Reduce dose to 12.5 mg OD if CrCl 30–50 mL/min	• Reduce dose to 6.25 mg OD (including patients with ESRD requiring haemodialysis)
Linagliptin	• No dose adjustment	• No dose adjustment	• No dose adjustment
Saxagliptin	• No dose adjustment if CrCl ≥50 mL/min	• No dose adjustment recommended in mild or in moderate renal impairment with an eGFR ≥ 45 mL/min. Reduce to 2.5 mg OD in moderate renal impairment if eGFR < 45 mL/min	• Reduce dose to 2.5 mg OD
Sitagliptin	• No dose adjustment	• Reduce to 50mg OD if eGRF < 45 ml/min	• Reduce dose to 25 mg OD (including patients with ESRD requiring haemodialysis or peritoneal dialysis)
Vildagliptin	• No dose adjustment if CrCl ≥50 mL/min	• Reduce dose to 50 mg OD	• Reduce dose to 50 mg OD

- CKD=chronic kidney disease; CrCl=creatinine clearance; eGFR=estimated glomerular filtration rate; ESRD=end-stage renal disease; OD=once daily.
- Information taken from relevant drug summaries of product characteristics, available at: www.medicines.org.uk (accessed 17.10.19)

SGLT-2 INHIBITORS

Drug	Mild renal impairment; CKD stage 2; eGFR 89–60 mL/min/1.73m²	Moderate renal impairment; CKD stage 3; eGFR 59–30 mL/min/1.73m²	Severe renal impairment; CKD stage 4–5; eGFR <30 mL/min/1.73m²
Canagliflozin	• In people with severe albuminuria (>30 mg/mmol) initiate at 100 mg down to an eGFR of 30 mL/min/1.73m², continue until dialysis or renal transplantation. The dose can be increased to 300 mg, if clinically needed, in those with an eGFR ≥ 60 mL/min/1.73m²	• In people without severe albuminuria, (<30mg/mmol) initiate Canagliflozin at 100mgs OD down to an eGFR of 45mL/min/1.73m². Once eGFR falls below 45 mL/min/1.73m², discontinue	• Do not intiate In people with albuminuria (>30 mg/mmol) and an eGFR of 30mL/min 1.73m², or less • If already taking Canagliflozin continue until dialysis or renal transplantation
Dapagliflozin	• No dose adjustment	• Do not initiate if eGFR <60 mL/min/1.73m² • Discontinue when eGFR <45 mL/min/1.73m² (persistently)	• Avoid use
Empagliflozin	• No dose adjustment	• Do not initiate if eGFR <60 mL/min/1.73m² • Dose adjustment to 10 mg OD when eGFR <60 mL/min/1.73m² (persistently) • Discontinue when eGFR <45 mL/min/1.73m² (persistently)	• Avoid use
Ertugliflozin	• No dose adjustment	• Do not initiate if eGFR <60 mL/min/1.73m² • Discontinue when eGFR <45 mL/min/1.73m² (persistently)	• Avoid use

- CKD=chronic kidney disease; CrCl=creatinine clearance; eGFR=estimated glomerular filtration rate; OD=once daily; SGLT-2=sodium-glucose cotransporter 2; UACR=Urinary Albumin/Creatinine Ratio
- Information taken from relevant drug summaries of product characteristics, available at: www.medicines.org.uk (accessed 17.10.19)

GLP-1 RECEPTOR AGONISTS

Drug	Mild renal impairment; CKD stage 2; eGFR 89–60 mL/min/1.73m²	Moderate renal impairment; CKD stage 3; eGFR 59–30 mL/min/1.73m²	Severe renal impairment; CKD stage 4–5; eGFR <30 mL/min/1.73m²
Dulaglutide	• No dose adjustment	• No dose adjustment	• Can be used if eGFR 15 ml/min/1.73m² • Avoid use if eGFR is < 15ml/min/1.73m²
Exenatide twice daily (BD)	• No dose adjustment	• No dose adjustment if CrCl ≥50 mL/min • Escalate dose from 5 µg to 10 µg with caution when CrCl 30–50 mL/min	• Avoid use
Exenatide once weekly (QW)	• No dose adjustment	• No dose adjustment if CrCl ≥50 mL/min • Avoid use if CrCl <50 mL/min	• Avoid use
Liraglutide	• No dose adjustment	• No dose adjustment	• Can be used if eGFR 15 ml/min/1.73m² or more • Avoid use if eGFR is < 15ml/min/1.73m²
Lixisenatide	• No dose adjustment	• No dose adjustment	• Avoid use
Semaglutide (injection)	• No dose adjustment	• No dose adjustment	• Can be used in CKD 4 with no dose adjustment • Not recommended in end stage kidney disease
Semaglutide (oral)	• No dose adjustment	• No dose adjustment	• No dose adjustment if eGFR ≥ 15 mL/min/1.73m² • Discontinue if eGFR < 15 mL/min/ 1.73m²

- BD=twice daily; CKD=chronic kidney disease; CrCl=creatinine clearance; eGFR=estimated glomerular filtration rate; GLP-1=glucagon-like peptide-1; OD=once daily; QW=once weekly.
- Information taken from relevant drug summaries of product characteristics, available at: www.medicines.org.uk (accessed 9/8/20 and individual SPcC)

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