

**Macleod Diabetes & Endocrine Centre
Royal Devon & Exeter Hospital**

Diabetes drugs in renal failure

This is a summary of licensed indications/guideline use for diabetes medications in renal impairment. This is a common question to our advice & guidance service.

Please also check BNF or www.medicines.org.uk. Indications change frequently; we try to keep up to date, but can't guarantee this.

Drug	Renal use
Metformin	Avoid if eGFR<30. Caution if eGFR<45, or variable and therefore at risk of decompensation. Advise all patients to stop metformin temporarily if vomiting/diarrhoea, or other risk of acute renal impairment.
Sulphonylureas	Can use at any level of renal function. But use cautiously in CKD as there is increased risk of accumulation and hypoglycaemia. Prefer gliclazide (predominantly hepatic excretion). Start gliclazide 40mg daily if eGFR<30, then adjust to response.
Pioglitazone	Dose as in normal renal function. But fluid retention may be a problem in patients with renal impairment.
DPP-4 inhibitors (gliptins)	Formulary choice is alogliptin – reduce dose in renal impairment: <ul style="list-style-type: none"> • eGFR 30-50 – alogliptin 12.5mg od • eGFR<30 – alogliptin 6.25mg od Other gliptins are also licensed in renal impairment – see BNF. No dose reduction is needed for linagliptin.
GLP-1 analogues	Dulaglutide (Trulicity) – avoid if eGFR<15. Exenatide standard release (Byetta) – avoid if eGFR<30; if eGFR 30-50, be cautious when increasing from 5mcg to 10mcg dose. Exenatide prolonged release (Bydureon) – avoid if eGFR<50. Liraglutide (Victoza) – avoid if eGFR<15. Lixisenatide – avoid if eGFR<30 (NB we do not recommend lixisenatide). We have seen a few cases of renal failure due to increased stoma output. We avoid or use cautiously in patients with stomas or chronic diarrhoea.
SGLT-2 inhibitors	Canagliflozin – don't initiate if eGFR<60; restrict to 100mg od if eGFR<60; avoid if eGFR<45. Dapagliflozin – don't initiate if eGFR<60; stop if eGFR<45. Empagliflozin – don't initiate if eGFR<60; restrict to 10mg od if eGFR<60; avoid if eGFR<45.